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ESSAYS AND CASES.

Art. I.—Epidemic Cholera and Dysentery.

An Account of the Third Visitation of Epidemic Cholera, in connexion with Dysentery, at Cincinnati, in the summer of 1834. By the Editor.

Historical and Ætiological Remarks.

Called upon, as medical historians, to say something more of the Epidemic of which we have already said so much, we begin by observing, that this third visitation at Cincinnati, was milder than the second, which was less violent and mortal than the first. Thus each succeeding attack has indicated either a diminishing energy in the remote cause, or decreasing aptitude to its action, in the systems of the exposed—probably the latter—possibly both; where, however, the disease had not prevailed before to much extent, it was this year extremely fatal, (as in certain parts of the country,) from which it may be inferred that the virulence of the remote cause, was in fact unabated.

Although our object is the disease in Cincinnati and its vicinity, where it fell under our own observation, it is right that we should notice its chronology and geography on a more extended scale.

It is curious, that while, in 1832, the malady was developed progressively, from the shores of the St. Lawrence to those of the lower Mississippi, appearing on the former early in July—on the latter, near the end of October; its development the next and the present year, was in the reversed order. Thus it was prevalent in the spring in New Orleans, and gradually invaded other towns up to the neighborhood of Cincinnati, where it commenced in July, after it had ceased below; and subsequently broke out at Wheeling, Pittsburgh, and other places higher up in the valley of the Ohio—appearing at a still later period, in the basins of the St. Lawrence and the Hudson.

It is, also, worthy of remark, that all its visitations have been more especially directed upon that zone in North America, which extends from the Gulf of the St. Lawrence to the Gulf of Mexico—from Quebec to New Orleans—in the valleys of the Lakes and the Mississippi; almost every part of which (including both town and country) has, in the course of three years, been invaded. The region of which we speak, comprehends Canada, the western parts of the states of New York, Pennsylvania, and Virginia, the Michigan territory, and the states of Ohio, Indiana, Illinois, Missouri, Kentucky, Tennessee, Mississippi, and Louisiana. It has spread beyond this interior region, in one quarter only. In 1832, it extended into the basins of the Hudson, Delaware, and Susquehana, and partially into that of the Potomac; affecting, more or less, the states of New York, New Jersey, Pennsylvania, Maryland, and Virginia; limited, however, in a great degree, to their maritime cities, and making but little progress in the last mentioned state. It is still more remarkable, that in the third visitation, it should have nearly confined itself to those states—even to a limited portion of two of them, New York and New Jersey. Thus, two great geographical and political sections of the Union, the north-eastern and the south-eastern, have as yet almost escaped. The former comprehends Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire, and Maine. The latter embraces southern Virginia, North and South Carolina, Geor-

gia, Alabama, and Florida. Scattering cases, sometimes considerably numerous, have, it is true, shown themselves, but no where have they been sufficient to constitute the disease an epidemic. As the two great divisions, the north and the south of the maritime states, differ widely in latitude, and manners, customs, pursuits, and modes of living, we may infer that these circumstances do not influence the production of the disease. But is there nothing in their geology, that may have exerted an effect on the spread of the malady? A straight line from Quebec to New Orleans, would almost constitute the south-eastern boundary of the Epidemic, except in one part, where two parallel lines drawn from the valley of the St. Lawrence and Lakes to the sea shore, would reach it at the mouths of the Hudson and James River. Now the region north-west of the first mentioned line is secondary, with extensive diluvial and alluvial deposites, and limestone is the predominant rock. The region northeast of the line running from the St. Lawrence to the city of New York, is almost entirely primitive, and has but small tracts of diluvium; and the region south-west of the line from the Lakes to the mouth of James River, is primary and transition, but has extensive marine alluvions.

These views would seem, at first sight, to indicate a geological influence; but the hypothesis is overturned by the fact, that the cities of New York, Philadelphia, Baltimore, Washington, Richmond, and Norfolk, are all built on primitive rocks (granite and gniess) or on beds of sand and gravel, consisting of the *debris* of primitive formations. It would seem, therefore, that the distribution of the disease, over the United States and Canada, has not depended on the geological structure of their different parts; though as it has visited the cities just enumerated, less frequently and severely than the interior, it may be said to have been more violent over the secondary formations. Whether this connexion was that of cause and effect, we have not as yet the facts necessary to a logical decision. It is proper to wait and see whether the parts heretofore comparatively exempt, may not hereafter be scourged.

It is certainly humbling to the pride of medical science, that its votaries, scattered over three quarters of the globe, and continuing their observations for sixteen years, should have been unable to discover the cause of this wandering pestilence. The theory of cometary influence will not do—that of miasmatic exhalation will not do—that of atmospheric animalcules, no one believes—that of insensible meteoration no body comprehends—and that of contagion is met by the established and undisputed fact, that the disease has repeatedly attacked persons in remote and insulated places, when they had not been subjected to the least communication with the sick, or any thing belonging to them. We are aware that cases of contagious origin, are perpetually cited by the people and a few professional advocates for that theory; but, as we have said, on a former occasion, the malady may, and does occur independently of contagion; it is demonstrated, therefore, that there *is* a cause that is *not* contagion, and although we do not know what it is, we are as little at liberty, according to the rules of philosophical logic, to admit another, as if we did. Moreover, if contagion were the cause, why does not the disease spread into New England and the Carolinas, and why did it appear in the present summer, nearly at the same time, on the banks of the St. Lawrence and Hudson, and the southern shores of Lake Erie, from Cleveland to Detroit? Still further, why has it sorely afflicted certain neighborhoods in Ohio, and left others adjoining untouched? We are, of course aware, that the question may, with equal propriety, be asked, why any other cause, of a general nature, should be active in one village, and produce no effect in another? to which we give this answer, *that we cannot tell;* but add, that we are not called upon to believe in contagion, merely because we have nothing else to rest upon. In denying contagion as the agent by which the spread of Cholera is effected, we are not bound to substitute any other cause, but must with becoming humility confess our ignoranee.

In this state of uncertainty, every fact is of importance, and we shall, therefore, proceed to furnish two, which, although not unobserved before, deserve to be recorded

again. First, in its reproduction, during the present summer, the Epidemic has arisen, and declined, with the intense heat, commencing in May, and abating, or ceasing entirely, in August; second, in many parts of the country around Cincinnati, it has prevailed much more on the uplands than in the valleys. Even in Cincinnati, it has been more frequent and fatal on the elevated than in the lower parts of the city. Above and below the town, it has prevailed, but in very different degrees. Below, where there is greater depression, and more extensive alluvial deposites, than above, it has been of single prevalence; up the river, in the town of Fulton, it was general and extremely fatal. This village consists of a single street, three miles in length, running between the river and the adjoining hill, at a considerable elevation above high water. The face of the hill is a lime stone cliff, and the houses are built amidst the fragments of rock and marl, that have fallen from it, and have formed a slope to the margin of the stream. There is consequently, no alluvial deposites, no special accumulations of filth, and no stagnant water; still the malady raged violently in this open village, for some time before it appeared in the city, and (although it was prevalent there in the two preceding years) carried off nearly four per cent. of the inhabitants. Was there then no physical circumstance in which Fulton varied from the surrounding places? The only one in which it differed, to its apparent disadvantage, was in its lying in a curve of the hill, with mural precipices to the north, reflecting and reverberating upon it, the rays of the sun; while throughout its whole length, there runs a paved road, unprotected by shade trees, and consequently, its inhabitants were exposed to a more intense heat and drought, than those other places in this quarter. In opposition to this fact, however, we may state, that twenty-five miles north-west of the city, in Butler county, the Epidemic prevailed, for two or three weeks, with frightful mortality, on some of the highest and coolest ridges.

While we thus record the fact, that not only in and around this city, but over the whole cholera region, from south to north, the reign of the Epidemic was cotemporary with the

prevalence of summer heat, we are by no means prepared to grant, that this heat was its immediate cause.

The temperature of the past summer, was not remarkably elevated, being only two degrees above our mean summer heat, and if it had been, other summers have been of exalted temperature, but were unattended by Cholera. There must, therefore, be some other cause than atmospheric heat. As to rain, and other forms of humidity, they were not very remarkable. In regard to the summer fruits, it may be said that they were never before so scarce, since the infancy of the settlements of the West; for, on the 26th of April, there was a frost of such severity, as to destroy them nearly all. This uncommon depression of temperature cannot, however, be assigned as the cause of the subsequent Epidemic, for it was of short duration, and only a higher degree of one of the cold nights which annually occur in April and May. Finally, we cannot look to poisonous impregnation of the waters, for the cause, seeing that this could not happen suddenly to the springs, and wells, nor to the river; and, still further, that the people of different villages, drinking alike the waters of the latter, were very differently afflicted by the Epidemic, and some escaped entirely.

It deserves to be noted, that the state of Kentucky, which suffered so fatally last year, has this summer remained exempt from an attack; while Ohio, which last year, was less afflicted than Kentucky, has, this season, been visited extensively, and in some places severely.

It is, also, worthy of remark, that the negroes of Cincinnati, a numerous body, who were greater sufferers than the whites, in 1832, but less afflicted in 1833, were this year comparatively exempt; although, in general, occupying depressed and filthy portions of the city, and living in small crowded houses, on gross miscellaneous food.

The subjects of the disease, in the late invasion of Cincinnati and its vicinity, were chiefly women, of various ages, up to seventy. But many children of both sexes, and a considerable number of men, young and old, likewise perished.

In the town of Fulton, it fell heavier upon the poor than

those in comfortable circumstances, many of whom, however, were taken off.

As to the intemperate, some of them died, but not a greater proportion, than of the abstemious, which might be inferred from the fact just stated, that more women than men were destroyed.

In the majority of cases, the disease could not be traced to any exciting cause, or, if one was assigned, it was of a kind to which other persons were constantly exposed with impunity.

Type of the Disease.

We have said, on a former occasion, that we know of no disease, the symptoms of which are more uniform, or the type better defined. After having seen it three times epidemic, we repeat the same observation. We do not say, that the symptoms of 1834 were a stereotype of those in 1833 and 1832, but the ague and fever of the same spot, generally differs as much, in successive autumns, in its phenomena and the indications of cure founded upon them, as the Cholera has in its successive visitations at this place. The greatest variation of the late, from the preceding attacks, considering them pathologically, was that the type was, on the whole, attended with a more pholgistic diathesis than the others, especially that of 1832.

Cholerine.

A great number of persons were affected with the diarrhœa, to which the French have given the name of cholerine; and many had an irritable state of the stomach and bowels, which rendered them uneasy under the least irregularity in diet and regimen. This diarrhœa was the epidemic in its mild form. When these attacks were neglected, or the patient was imprudent, they often advanced to full developement, and proved fatal.

Its Relations to Endemic Cholera.

Cases of common cholera morbus occasionally presented themselves, particularly in May and June. They were distinguishable from Epidemic Cholera by the feculent and bilious evacuations, a greater degree of fever, and less muscular debility. They were generally excited by some irregularity in diet. Instances of cholera infantum were also common, and were distinguishable by nearly the same symptoms. Several adults and children, seized as it were with the *endemic*, finally died with symptoms of the *epidemic* cholera.

Epidemic Dysentery, and its combination with the Cholera.

The most interesting aspect under which we can view the late epidemic, was its combination with dysentery. The latter preceded the former, and continued to occur after it. For many years that disease has not been as prevalent in this region, as for the last three months. In the majority of cases, the two complaints were uncombined, and each displayed its characteristic symptoms. But in a great number, they were blended in a most striking manner. Thus, of two patients, seized with diarrhœa, one would presently have cholera, and the other dysentery. A patient would be attacked with the latter in the form of tenesmus with bloody discharges, and in two other days, they would become serous, cramps would supervene, and collapse terminate his career. On the other hand, the complaint would set in as cholera, that is, with watery diarrhœa, nausea, thirst, and incipient cramps, and end at length, in dysentery. Again, the patient would have mucous and bloody, in alternation with gruel-like excretions; and in one case, attended by Dr. Shultz, in Fulton, the discharges were copious and thin, but highly colored with blood. Whenever the dysenteric type predominated, or the tendency was to mucous and bloody, instead of serous secretions, the patient was found to be safer, than when the tendency was

the other way. As to the diathesis, it was more inflammatory, in proportion as the dysenteric symptoms prevailed, and a great majority of the cases of that malady were so phlogistic as to require the lancet, often two or three times. Did this difference in the condition of the sanguineos system in the two diseases, arise from the depletory and exhausting effects of the copious secretions in cholera? This was probably the fact. In both maladies, the stomach, compared with the bowels, was but little affected. This was particularly the case in the dysentery; but even in the cholera, full and repeated vomiting, was less frequent than in the epidemics of the two preceding years, a modification which probably resulted from the influence of the cause which produced the dysentery, as in that malady, the stomach is generally tranquil. In both of these diseases the function of the liver was affected, nearly in the same manner, and to the same degree—that is, it was suspended. The appearance of bile, by vomiting or stool, except when produced by medicine, was extremely rare, and always indicated a mild attack. Developed fever was more common in the dysentery, than the cholera; as might be inferred from what we have just said on the state of the sanguiferous function; and the manageableness of the case was generally in proportion to the intensity of the fever. In several instances the fever became predominant, and assumed to a considerable degree, the nature of our autumnal remittents; although its paroxysmal character, was not, in general, well marked; it did not recur with a chill, and the copious secretions which accompany autumnal fever, were not present.

Cause of the Combination of these Maladies.

This blending of the Epidemic with our well known summer endemics, is a curious, though not an unprecedented phenomenon. It would seem, *prima facie*, to indicate, that the whole depended on one cause, modified in its power or its *modus agendi*. If so, a discovery of the cause of our *endemics*, would involve that of the Epidemic. But who can under-

take to assign the cause or causes of the former? It is common to say, that they arise from malaria, developed at the earth's surface; but they often prevail on dry limestone ridges in the country, where the *materiel* for foul air—decomposable matter—is almost wanting. Let us assume, however, that they originate from miasmatic exhalations of that kind, and proceed to solve the problems of their connexion with the Epidemic. It is, then, identical with them in its symptoms and nature, or it is not. If identical, why is it recognized every where as a new and terrible malady; and why did it appear in Cincinnati in the year 1832, at least two months after those endemics had ceased? On the other hand, if it have peculiar and distinguishing features, what other cause is it, that modified the cause of our endemics to such a degree as to produce, the pestilence, which all admit to have an existence? Until we can assign *this* cause, we state a fact, and do not give an explanation—we admit a connexion without accounting for it. In fact, we *assume* that our ordinary endemics arise from malaria, and then *assume* that another cause modifies that, so as to make it produce the Epidemic; which at last is equivalent to an admission of total ignorance.

Treatment of the Cholera.

First Stage.

We begin by reiterating from the two last years, that the Cholera is a curable disease in its early stages only. When it exists as cholerine, (cholericula or slight cholera) it may always be arrested. But unfortunately this has been regarded as a different disease from *the* Cholera; and the people have too often supposed it might be neglected with impunity. The infatuation on this subject, amount every where to a kind of madness, or more properly, idiotism. It is not uncommon to see persons affected with diarrhœa or cholerine, entirely neglecting the means of cure; and, at the same time, extremely anxious to do every thing in their power to avert the Epidemic. When such patients are told, that the fatal

malady is already forming in their systems, they are incredulous, and very often cannot be made to believe, that so malignant a disease as that which they dread, can approach with so little display of the armature of death. When they are earnestly and affectionately urged to lie by, and take medicine, they often refuse; and sometimes even think that the physician is governed in his generous advice, by motives of a sordid character! They are beguiled by the malady itself, and allured on to destruction. This singular state of mind, might be supposed to prevail only among the ignorant and heedless, but such is not the fact, for every one must have witnessed it among the intelligent, and we have even seen physicians themselves, thus mystified. The fear of being branded with cowardice, has closed the eyes of many to the danger of suffering the disease to advance beyond this early stage: a dislike to acknowledge themselves sick, and an aversion to medicines, have had their influence on others: finally, a repugnance to withdraw from business, and lie down, while they felt able to go abroad and keep employed, has contributed to the same disastrous result. As we said the two last summers—and to repeat in every form of expression, and on all occasions the designation of cholerine or diarrhœa, as the *premonitory* stage of cholera, instead of the *first* stage, has contributed, beyond all human calculation, to the mortality of the Epidemic. That single word *premonitory* has, indeed, slain its tens of thousands, in every country where the cholera has appeared? and will, it is to be feared, continue its ravages, till the pestilential constitution dies away. We would loudly and earnestly call on all who may read these pages, to unite in banishing it from the nomenclature of cholera history; and beseech every member of the profession, to insist on the great and momentous truth, that the symptoms to which it has been applied, are those of the pestilence itself, and that all who labor under it, have already felt the impress of the secret poison, and are liable at any moment to become seriously ill and die.

In this stage, as we have repeatedly said, the Epidemic *may* be cured in ninety cases out of a hundred—but let it ad-

vance beyond this stage, to vomiting and cramps, and ninety out of a hundred may die. A single day's delay, a night of watching with a sick friend, a hearty or indigestible meal, an hour of grief, or a wetting of the skin, may be sufficient to develope the fatal stage. The physician who directs his attention upon these cases, will save the lives of multitudes, but may get no credit for curing *Cholera*. The recovery, under his hands, of one patient affected with vomiting and cramps, will excite the admiration of the populace, more than the timely preservation of a hundred patients afflicted with the early symptoms only. Such are the ignorance and perversity of the people; but it is his duty to disregard both, and insist on the indispensable necessity of meeting the disease while it may yet be conquered.

The treatment of this stage, in the late visitation, was nearly the same as in the preceding. When the patient had an active pulse, (not being exhausted by the long continuance or the profuseness of the diarrhœa,) bloodletting was required, calomel was always necessary, and by all odds, the most efficient of our remedies. Opium, stimulants, antacids, and sudorifics, were also beneficial. But nothing could be relied upon, unless the patient quit eating solid food, and laid down. By these simple means the victory was achieved—but it brought no crown of laurel, nor very often called forth an expression of gratitude.

Second Stage.

We shall call that the second stage, in which vomiting and cramps or spasms, were present. In this stage, the alvine discharges were always serous. It often followed on a diarrhœa, or first stage, of several days duration; at other times, the two symptoms just mentioned, were present almost from the beginning; and Dr. Wood has mentioned a patient to us, who became affected with cramps in his legs, while his stomach and bowels felt perfectly sound; he died, however, in a few hours.

The treatment of this stage did not differ materially from that of the first, except in degree. Great energy was requi-

site to secure a favorable event. Bloodletting was often, not always, necessary. After the lapse of even a few hours, it was contra-indicated by the exhaustion of the patient. The cases which bore the largest bleedings, as already intimated, most frequently terminated well. Local bleeding was not used, as far as I heard; and, indeed, the state of the skin would seem to render cupping almost impracticable. The *great* remedy in this stage was calomel—we mean that it was the *great reliance*. Every physician made it the basis of his treatment. It was given in doses of from 20 up to 60 grains—rarely in greater; and repeated, till, in some instances, several drachms were administered. It was often combined with opium, but less of the latter was required than in 1832, for the type of the disease was more inflammatory. We sometimes combined it with large doses of powdered aloes, but it was more commonly united with camphor or capsicum, or both. It had been repeatedly given in such connexion, the two preceding years; but the alleged success of Dr. Cartwright, of Natchez, from the use of the triple compound, evidently led to a more liberal use of the two latter articles, than in the previous attacks. In our own practice, but more especially in the practice of Dr. Towler, and Dr. Shultz, in Fulton, we saw this compound repeatedly fail, and finally, were not convinced that it was, in most cases, more efficacious than calomel alone. The experience of so able a practitioner as Dr. Cartwright, is entitled to great consideration, and we are not disposed to entertain or express a doubt of what he has reported on that subject; but his practice seems to have been chiefly among the negroes of Mississippi; and their constitutions, it is well known, require more stimulation than ours; we can readily conceive, then, that he found much efficacy in the union of capsicum and camphor with calomel. We have been favored with a paper by Dr. Yeargain, of Princeton, in the same state, in which he gives the results of his experience, with this compound in the following language:

"The treatment the writer believes most effectual, and which he has settled upon, after a trial of all the remedies he

ever heard recommended, is, to bleed, if the patient is seen in time to expect reaction can follow the remedy; if not, to give immediately sixty grains of calomel, ten grains of powdered camphor, and ten grains powdered pepper, to be washed down with half an ounce of *paragoric elixir* undiluted, the table spoonful of this camphorated tincture, may be repeated in a short time, if the patient does not grow warm, and the vomiting and purging cease; the calomel powder may be repeated in two hours; and the patient made to drink of ginger or peppermint tea, no other drink allowed; these remedies to be assisted by warm applications, warm bath, brisk frictions, with a warm mustard poultice over the whole of the abdomen. There must be no solicitation about the operation of the medicine. The bowels will wait until even the next day, if the morbid action is overcome."*

The first effect of the calomel alone or combined, when it did good, was to quiet the stomach, and arrest the secretion and excretion of serous fluid from the bowels. The second was to excite colored discharges, which were green or yellow—rarely the last, until after the former had ceased. When these colored discharges appeared, the patient was said to be safe; but we saw three cases in which he passed into fatal collapse, with dark bilious excretions, and died. When the serous discharges began to abate, the restoration of the biliary secretion was often accelerated by the use of senna, scammony, the blue pill, rhubarb, aloes, and other drastics, which rendered the further exhibition of calomel unnecessary. When the patient was greatly exhausted, or of a phlegmatic temperament, these intestinal irritants were more necessary to the restoration of the secretions of bile, than when he was in a vigorous and phlogistic condition.

With the occurrence of colored secretions, the spasms, if not previously subdued, generally ceased. For the purpose

*We at first intended to publish this gentleman's paper, but concluded, at length, to limit ourselves to this extract. The presentation to Dr. Cartwright, of a beautiful silver vase, by certain planters in the neighborhood of Natchez, is a strong evidence of his success, and an act equally honorable to all the parties concerned.

of removing them, much less of direct effort was made, than in the two former visitations. The warm bath, and hot applications, sinapisms, blisters, and frictions, were not so often employed, and, we are disposed to think, with no injury to the sick. A perception of their comparative inefficacy, probably led to some abatement in their use.

Thus, experience in this, as in other cases, simplified the treatment, and reduced the number of therapeutic agents.

Third Stage.

The symptoms of collapse, in the cholera of the present year, were nearly the same with those of the preceding. Of the treatment of this stage, we have but little to say. We have repeatedly inquired of our professional brethren, by what means they succeeded in curing it; and were invariably answered, that they knew of no remedy for it; which was in exact coincidence with our own observation. Indeed, all who fall into collapse, should be expected to die. If any have recovered from that condition in Cincinnati, they have not met our notice. We do not deny but that recoveries may have taken place; but from the total inefficacy of all the means we have seen employed, we feel justified in saying, that the number of such results has been small indeed. We saw two cases in which the patients distinctly emerged from that state; but they both died of consecutive fever, with signs of diseased brain; and, also witnessed several instances of partial resuscitation, but the patients fell back into collapse, and were lost. We cannot, therefore, but look with indifference on the immense farrago of means for the cure of this stage; and with dismay at the volumes that have been written on its pathology and indications. They seem to us to have been worse than useless; for, by holding out a delusive prospect of cure in the last, they have diverted the minds, both of the people and the profession, from the first or curable stage.

Treatment of the Dysentery.

The treatment of this disease was substantially the same as that of the Cholera. It required the lancet much oftener, and the blood drawn was more frequently covered with an inflammatory crust. The effect of bleeding was almost always good; and in no instance that fell under my observation, prejudicial. As in cholera, after bloodletting or without it, when not required, the chief reliance was on calomel; it was not given, however, with stimulants and aromatics, but alone, or in alternation with castor oil, or that medicine in connexion with mucilage of gum arabic and sugar. From the tormina attendant on many cases, opium was imperiously demanded. In some instances, Dover's powder, or opium and ipecac were found better than the opium alone. Inflammatory action being moderated by the lancet, nothing was more efficacious than the combination of opium and calomel.

The former soothed the pain and spasm of the muscular tunic of the bowels, the latter excited the liver to renewed secretion, and superseded the irritation of the mucous membrane of the colon and rectum. As in cholera, whenever bilious or atrabilious discharges occurred, the patient was found to be improving; but the muco-sanguineous secretions sometimes recurred, and in a few cases, continued for a while to alternate with the bilious, so that immediately after a discharge of mucous and blood, there would occur one of bile. In one case, that of a lady, who had long been affected with liver complaint, the discharges put on a purulent aspect, and were for two or three days, so copious, as to render it probable that an abscess of the liver might have been emptied into the bowels. In the course of a few hours, this patient would have several discharges of blood and mucous, unmixed with bile—then of bile, blood, and a secretion of a purulent aspect. The pain, moreover, was not confined to the rectum, but extended into the right hypochondriac region. Bloodletting, calomel, ipecac, opium, mucilages, active cathartics, blisters, rhubarb, prepared chalk, enemata, the bark and the

tinctures of kino and catechu, were among the remedies, which in the progress of this tedious and painful case, were employed; several of them appeared to do good, but the discharges were still frequent, vitiated, and attended with great pain, and much exhaustion of strength, when we resorted to the acetate of lead in combination with opium. The effect was most happy. The medicine was given in three grain doses, every three hours, and before the first 12 grains were administered, her amendment was decisive. When 36 grains were given, the midicine was discontinued, and she was put on the use of tonics and diet, with chalk and opium occasionally. In several instances, we saw a decoction of bark of unquestionable advantage. Dr. Ridgely informs us, that he obtained very beneficial results in a number of instances, from liberal doses of rhubarb and magnesia. Dr. Richards arrested a number of cases, in the *beginning*, with one or two doses of the spiced tincture of rhubarb and paregoric. Dr. Dodge, in one most obstinate case, abated the tenesmus and copious bloody secretions, and saved his patient, with a decoction of crow-foot root, (*geranium maculatum.*) Injections of starch and laudanum often did good; but a hip bath was on the whole still better.

As we shall follow this article with another by Dr. Bailey, on the Dysentery, as it prevailed in the neighborhood of the city, we shall not extend this section, but proceed to state, in conclusion, a number of

Miscellaneous Facts and Cases.

Cure by Sweating.

1. I was assured by a poor intemperate man, in Fulton, that being attacked with Cholera, he was advised to go to bed and drink freely of "elder berry tea," (*sambucus nigra,*) with whiskey; which he did; and a profuse sweat coming on, he immediately got better. Sometime afterwards, losing his wife with

the same malady, he continued on his feet all the night and through the forenoon, with some degree of diarrhœa upon him; passing into a state of collapse in the course of the following night, he died the next day. We do not entertain much doubt that if he had been treated as early and in the same manner, in the second attack as in the first, he might have been saved; and state the case, not merely to animate others to a timely resort to medicines; but to show the efficacy of a decided sudorific treatment in the beginning of the disease.

Convulsions.

2. A little child, in the practice of Dr. Towler, in Fulton, during the spasmodic stage of the disease became hemiplegic, and died with convulsions. This often happens in cholera infantum.

Serous Uterine Secretion.

3. When the disease was at its height in that town, a woman was delivered, having a natural labour, and appearing quite comfortable after the event. In a few days it was observed that the lochial discharge was increasing, instead of diminishing, and that the patient was failing in her strength. In its character the excretion was decidedly serous, and at length became exceedingly profuse. When we were called into consultation with her physician, Dr. Towler, her pulse and the heat of her system were reduced, and her lips were purple. In short, she passed into highly characterized collapse, and died. The uterine secretion was manifestly choleric, and vicarious of that from the bowels. As far as we recollect, the case is a new one in kind; and ought to serve as a warning to those who have obstetrical practice during the prevalence of the Epidemic.

Bad Effects of Mineral Water.

4. A patient of Dr. Shultz, in the same town, which I likewise saw in consultation, had been more or less affected with

diarrhœa, when he visited the epsom salt spring, near Newport, on the opposite side of the Ohio, and drank freely of the water. It operated copiously, and he was soon after taken with cramps, and passing into collapse with frightful rapidity, died in a few hours after the Doctor was consulted.

Imperfect Dislocation of the Lower Jaw.

5. In the same town, a casualty occurred to a choleric patient, which excited considerable attention. An elderly woman, in vomiting, suffered what Mr. Cooper has described as an "imperfect luxation" of the under jaw. Her physician, as the jaws were but little separated, regarded it as tetanic. We were not called into consultation, but by permission, saw the patient, *en passant*, with her jaws bound up, and not making an examination, presumed, that it might, in fact, be a case of rigidity, connected with the spasmodic stage of the cholera. Subsequently, no change having taken place, the idea of its being a dislocation, was started in the neighborhood, and the attending, called in a consulting physician, who reduced it.

The latter, with his medical friends, naturally commented on the fruits of this hasty, (or rather unperformed) observation, with the same severity as if the patient had been our own, and subjected to a full and special inspection. Of this we are far from complaining; for the cause of humanity requires, that carelessness, even in concurring with others, should be punished by injury of reputation; and the older the physician, the less should he be excused. Indeed society needs every kind of protection against the effects of inattention, inaccuracy and ignorance; and we can scarcely regret the industrious promulgation of this occurrence, when it affords us so fine an opportunity of impressing upon our *young* readers—they for whom we write, and who are the hope of the rising generation—the great importance of patient and persevering inquiry, into every case with which they may have the least connexion. A habit of sound and perspicuous observation, is as necessary to the support of a good medical reputation, as to successful practice; for the mistakes of a physician become

the common property of the profession, and are turned against him by the guardians of its honor and interests, as a means of exciting others to greater care and deeper study.

Extraction of the Cataract followed by Collapse.

6. About the time the Epidemic began to manifest itself in this city, a poor and aged woman, from a neighboring state, presented herself at the *Cincinnati Eye Infirmary*, with cataract. The extraction of the lens of one eye, (without accident, and the cornea healing kindly,) was followed by debility and nervous irritation. After the lapse of some time, during which she was confined to the bed, she sunk imperceptibly into a kind of collapse, and expired. We are of opinion, that the choleric poison exerted a fatal influence on the system of this elderly woman, previously feeble, and still further enervated by the operation; and mention the case, to show the impropriety of performing any surgical operation during the prevalence of Cholera, that is of a nature to be postponed.

Obscure and Irregular, but Fatal, Cholera.

7. A gentleman, from Louisiana, came to Covington, opposite Cincinnati, after the Epidemic had ceased. He was somewhat indisposed when he arrived, and employed Dr. Reynolds. We saw him, in consultation, several times. His malady was not well defined; but on the whole presented the symptoms of that kind of functional derangement in the abdominal viscera, and that state of the feelings and faculties of the mind, which are present in, and constitute hypochondria. He took emetics, calomel, the blue pill, aloes, colocynth, and other medicines of a chologogue and drastic kind, which operated rather sparingly. After an illness of more than a week, his pulse gradually became imperceptible, his skin purple in spots; his fingers sodden; his nails blue; his voice sunk to a whisper; but he retained his senses and a considerable degree of muscular strength. He had no cramps, but the predominant symptoms of collapse were present, and in 12 or 14

hours after his pulse ceased, he expired. If not the sole cause of this malady, the choleric poison evidently exerted a fatal influence in this case; which was not the only one of a like kind that fell under our observation; and may be mentioned among the anomalies, which the physician should not allow to impose upon him, by their resemblance to other and milder diseases.

Cholera supervening on Intermittent Fever.

8. A physician, returning from New Orleans, was seized with intermittent fever, and stopped in Fulton, two miles above Cincinnati. When convalescent, the Cholera became violent in his neighborhood. In the latter part of the night, he was seized with profuse watery discharges; his pulse failed, his eyes sunk deep in their sockets, his face became pale, and his countenance choleric. Being a physician, he took, before morning, a large quantity of calomel, laudanum, and brandy, which arrested the discharges; and before night, bile appearing as they were reproduced by the calomel, he felt much better, and under the conjoined use of tonics and mercurials, got well.

Another Case.

9. A patient of Dr. Walker's, whom we saw in consultation, had labored under intermittent fever, from which he was not restored, when he was seized with Cholera. Large doses of calomel and aloes brought away free discharges of dark colored bile, but while they still recurred, he sunk into collapse, and was lost.

Intermittent Fever, Dysentery, and Cholera.

10. We incidentally saw a poor woman, on the hills near Cincinnati, and prescribed for her several times, who labored, in succession, under the forms of disease just named. After having for a number of days been affected with a quotidian intermittent, a violent dysentery supervened. It was in this

stage that we saw her, and found her alvine excretions bloody and mucous, with tenesmus. Liberal doses of calomel and Dover's powder corrected this state of the secretions, and for a short time she seemed likely to recover, when the characteristic diarrhœa of Epidemic Cholera set in, and, as we understood, she died with the usual symptoms attendant on the closing stage of that malady.

A Case of Cholera, running through all its stages, uninterrupted by Medicine.

11. A middle aged woman, in Fulton, was seized with Cholera, and her husband sent for Dr. Towler, who, however, could not prevail on her to take medicine. When we saw her first, by permission of the Doctor, she was passing into collapse, and at a second visit, was nearly pulseless, with purple lips, shrivelled fingers, cold extremities, and feeble and husky voice. Being a fanatic of the Mormon sect, she said *her* Bible ordered those who are sick to resort to herbs. About the time when she was sinking into collapse, a sister fanatic sent her word, that she had received a special message from Heaven, saying—Let the sick sister drink a tea of dog-fennel and arsmart, (*anthemis cotula et polygonum persicaria.*) This was done, and as these are both acrid plants, the infusion probably sustained her through the collapse, out of which she rose, when we looked for her to die. A dose of calomel, however, administered by stealth, may have contributed to the result. Secondary, fever now ensued, and after a tedious course of eight or ten days, she died with strong signs of disease in the brain. During this fever, she consented to let Dr. Towler prescribe for her. In this case the encephalic disease was not the consequence of the previous administration of either stimulants or narcotics.

Slaughter houses not pernicious.

12. Most of the butchers' shambles are near each other in the valley of Deer creek, which has an atmosphere thoroughly impregnated with the various exhalations that arise from

putrid blood and other offals; but as far as we could learn, nearly all the operatives and inhabitants of the valley escaped both the Cholera and the Dysentery.

Mortality in Fulton.

13. Much was said about the great mortality in Fulton, amounting, as we have already stated, to near four per cent.; and it was even said, that the physicians who practised there, were unskilful. We had, however, much opportunity of knowing what practice they pursued, and can state, that it was substantially the same as that pursued in the city and elsewhere. The causes of great mortality in that open village, were the same that are operative elsewhere. In the first place, many of the inhabitants were recent emigrants, who had arrived since the disease prevailed the year before, from places where it had not been epidemic, and consequently they were new and liable subjects. Secondly, a great proportion of those who died were poor persons, badly provided with comforts and early medical aid. In one family, that fell under our own observation, four out of seven died, in a destitution of medical aid, that was nearly absolute. Thirdly, not a few entirely neglected to avail themselves of the experience of the *profession*, and sought relief from the recipes of *empiricism*. Fourthly, as is usual, a great proportion, even of those who placed reliance on the profession, deferred, an application for relief, till the curable stage of the disease had passed by. These were the true causes of the mortality, and quite sufficient to account for it.

Mortality in Cincinnati.

14. The aggregate mortality in the city was small, because but few were attacked. The proportion of deaths to the number of cases, was, *perhaps*, nearly as great as in the preceding visitations. By the bills of mortality, the whole number of deaths did not exceed 150; being little more than a half of one per cent. of the whole population. The *three* epidemics have destroyed about four per cent. The week of

the greatest mortality, was in the week ending July 30th, during which, the number of deaths were about four a day.

Mortality in our own Practice.

15. In our own practice, in the city, we lost two patients—A man who manifested no signs of Cholera till 24 hours before his death, although indisposed with gastric and intestinal *malaise*, as we understood from him for 5 or 6 days previously; and a child, seven months old, whose disease commenced as ordinary cholera infantum, and ended with the serous discharges, unquenchable thirst, restlessness, and exhaustion, which characterize the final stage of Epidemic Cholera. In the country, we lost two patients—a child and a woman. The child died in collapse, with *bilious* discharges; the woman we saw once only. The disease appeared to be awakened in her by the anxiety of mind, induced by the departure of her husband for New Orleans; a fact which we mention, to show the variety of exciting influences, which may give activity to the remote cause.

Relative prevalence of Cholera and Dysentery in different places.

16. These two diseases were not greatly prevalent in the same place, and where one was general, the other was not. The Dysentery has reigned much more extensively in the West than the Cholera, but has not attracted so much attention as the latter.

Comparative Mortality of Cholera and Dysentery.

17. The Cholera was decidedly a more fatal malady than the Dysentery; and most that died of the latter, had choleric symptoms and collapse, in the final stage. In the city, we lost no patient with dysentery: in the country one—a lady, who appeared to have labored for some time under scrofula of the mesenteric glands, with repeated attacks of mesenteritis.

Effects of sudden Changes of Weather.

18. When the disease had nearly ceased, a sudden change of weather re-produced several cases, which, however, were not followed up by others. The same thing was observed last year. Indeed, the occurrence of rain, while the complaint was still prevalent, seemed to be attended with prejudicial effects, as it was preceded by great heat, and followed by a reduction of temperature—first augmenting, and then suddenly checking perspiration.

Present State of Health in the City and Country.

19. At this time, Sept. 18th, the city is healthy, (although now and then a death occurs from Cholera,) and the immediately surrounding country not less so. In the former, there is very little autumnal fever: in the latter, intermittent fever exists to a considerable extent, in some of the alluvial valleys, where neither Cholera nor Dysentery had prevailed this year.

Diseases of Animals.

20. There has been no epizootic disease, in the city or neighboring country, that does not occur every year. As stated in our last number, the locusts (*Cicada septendecim*) were numerous in the month of June; but with this exception, the insect kingdom has exhibited no phenomenon of any kind; nor has the state and progress of vegetation been in any circumstance remarkable.

Diminished Cholera-phobia.

21. The alarm in Cincinnati and the surrounding country, upon the development of the disease, was far less than in the year 1832, or even 1833, and to this may perhaps be ascribed, in part, its lesser mortality. Of contagion there was, among the people who witnessed it before, not the smallest dread. They often, indeed, crowded round the cold, blue, and expiring patient, in such numbers as to require the interposition of the physician.

Cincinnati, Sept. 18, 1834.

Art. II.—Dysentery and other Diseases.

Observations on the Dysentery and other Diseases of the valley of Mill-creek, north of Cincinnati, in the spring and summer of 1834. By G. Bailey, M. D.

When sickly seasons have passed away, it becomes the proper business of physicians to collect, and correctly set forth any remarkable medical facts they may have observed within the circles of their practice. Our intention, therefore, is to give a brief sketch of several circumstances connected with our practice in Cumminsville and the neighboring region, from the first of April last, up to this time. Brief it must be, for, not having any written notes to depend on, our memory must supply us with the requisite materials.

The circuit of our business, assuming Cumminsville as near the centre, embraces a space of from eight to ten miles diameter, every way.

Throughout the month of April and the first part of May, the principal disorders were affections of the lungs, in adults manifesting themselves under the various forms of pneumonia, pleuritis and catarrh, connected, at times, with biliary derangement; and in children generally assuming the form of congestive catarrhal fever, with soreness of the abdominal parietes, and marked disorder of the cerebral functions. Of adults, we lost none—of infants, a few. Our practice, we believe, was orthodox, and, therefore needs not be detailed. Looking back, however, upon our infantile cases, we have come to the firm conclusion, that our success would have been greater, if we had made a more liberal use of the lancet.

On the whole, this part of the season was healthy, and from the middle of May to that of June, no decided disease of any sort prevailed.

About the end of this term, we began to witness multiform derangements of the bowels—such as diarrhœa, bilious and watery, sick stomach, vomiting, cramp cholic and cholera morbus. Light colored watery diarrhœa has not been unfrequent during the whole season. It has occurred alone, or complicated with the different sorts of fever met with in this re-

gion. We have found it generally amenable to the timely administration of calomel and opium; in some instances, however, being compelled to give to the extent of ʒij. of the former combined with four or five grains of the latter. This combination sometimes failing, we have resorted, with excellent success, to the use of calomel in union with cayenne. Where no positive indications called for the administration of opium, we came gradually to prefer the use of this mixture, owing to the subsequent vexatious influence of opium in producing headache and obstinate torpor of the bowels. So obstinate has this been, in many instances, after the arrest of the diarrhœa, as to require heavy doses of the most active purgatives for its removal. A combination of calomel, aloes, and rhubarb, in equal parts, given to the extent of ʒij. and followed by four or five ounces of castor oil, has procured not more than two or three evacuations. The cayenne appearing to us almost as efficacious in arresting watery diarrhœa, never occasioned this inconvenience; and from its action being chiefly confined to the stomach and bowels, the head was generally unaffected by its exhibition.

In no case had we a diarrhœa of this kind to terminate in cholera. It is true, people were on their guard, and made timely application for medicine.

Cholera morbus occurred more frequently in the latter part of June, than at any other time. It was violent in its character, but always succumbed to our remedies. These were, after ascertaining that no crude matter remained in the stomach and intestinal canal, calomel and opium freely given—calomel and opium, separately given, in large or minute doses—calomel, camphor, and cayenne—sinapisms repeatedly applied, and injections of starch and laudanum. We found it necessary in all cases, to withhold drink of whatever kind, from the patients, except in the quantity of a tea-spoonful at a time. A solution of camphor in ether, as recommended by Dr. Eberle, we used frequently, with considerably good effect. Whether the white diarrhœal discharges were to be attributed to an inordinate indulgence in the vegetables of the season, or to a choleraic influence in the atmosphere, or to both conjointly, we will not discuss.

About the first of July, the dysentery began to prevail extensively, throughout the region of our practice, and continued, unabated in violence, until near the close of this month. Infants, children of from six to fourteen years of age, and adults, of from twenty to forty, were most largely affected. But the only fatal cases occurred amongst infants, owing to the impracticability of using with them the same efficient measures, as with older persons.

With regard to its localities, the bottom land, or lands along Mill creek, and the little streams emptying therein, were comparatively but little affected, while on the hills or highlands, towards Mount Pleasant, and about Blue Rock road, from seven to ten miles from this place, its attacks were frequent and severe.

The exciting cause of the disease, we believe, might, in every instance that came under our notice, be sought for in the presence of crudities in the intestinal canal, giving rise to irritation and inflammation. As to the circumstances that so generally predisposed the mucous membrane of the bowels to take on a dysenteric form of inflammation, under the influence of those exciting causes, we are silent. We have speculated, to be sure, but our speculations are so unsatisfactory to ourselves, that we cannot suppose they would satisfy others.

In some instances, the dysentery was of a highly inflammatory character, calling for rigorous antiphlogistic measures. Here a bold use of the lancet was required. A majority of the cases, however, did not present such a character. Amongst infants, in a few instances, the brain was seriously involved. Many times we had to contend with severe hepatic derangement, in which case emetics were never neglected. Sometimes, a well developed remittent fever was complicated with the complaint.

We endeavored, in our treatment, as is the habit of the profession, to moderate, when excessive, general excitement, to correct hepatic derangement, when present, to restore to a healthy condition, the always disordered cutaneous functions, and to lessen directly the violence of the local symptoms.

An excess of general excitement, demanding the use of the lancet, was of rare occurrence. Hepatic disturbance we generally rectified by the timely exhibition of one or two doses of ipecac., followed by scruple doses of calomel,or by calomel, ipecac., and opium. Our attention, however, was directed still more to the local affection and cutaneous derangement; for, correcting alone the disturbance of the biliary functions, and procuring bilious stools, were by no means, the infallible signs that a cure would follow.

To act upon the skin, therefore, and also on the bowels, opium, in watery solution, combined with ipecac, was our common remedy. We used it in the proportion recommended by Dr. Eberle, of a 1-4 grain opium to one or two grains ipecac. But a remedy of more specific influence on the local disorder, we found in the sugar of lead. In every variety and grade of the disease, we did not hesitate to use it in large doses, both by the mouth and in injections. According to the state of the liver or skin, or other circumstances, we gave it in combination with calomel and opium, or calomel and Dover's powder; with opium alone, or with opium and ipecac. Given in injection, we usually dissolved it in the watery solution of opium, occasionally with the addition of ipecacuan. For a child of eight or ten years old, our usual form was as follows:

Sacc. Saturni, 3i.
Pulv. G. Opii., gr. vi.
Aquæ, o iss.

One twelfth of this was used every two or three hours, or oftener, if the violence of the tormina and frequency of the discharges demanded. At the same time, to a child of the same age, two or three grains were administered every two or three hours, combined with some one or more of the articles noted above.

Castor oil, as a laxative appeared to us, not unfrequently to aggravate the disease. In such cases, we often prescribed calomel alone, in doses of 10 or 20 grains to children, as an efficient and gentle purgative. In dysentery it is said that the local irritation gives rise to spasmodic constrictions of

the intestinal tube. This being the case, it is easy to understand why castor oil, acting, as we suppose, by quickening and energizing the peristaltic motion, not unfrequently increases greatly the tormina and tenesmus. We know of no reason, therefore, why some of the saline laxatives, that operate chiefly by stimulating the intestinal exhalents to an increased discharge of fluid, thereby unloading the engorged blood vessels, about the abdominal canal, should not be more beneficial than castor oil. Hence, we perceive some philosophy in the assertion of Dr. Cheyne, that ½ oz. of cream of tartar, finely levigated, and given every four or six hours, has restored patients to health, who could not, he believes, have otherwise recovered. My colleague speaks well of the strychnine, in this complaint. In two cases, after all the usual remedies had failed, he succeeded entirely with this article. They were both children, one two, and the other three years old. One twentieth of a grain of strychnine was administered three times, daily, for three or four days, until a decided abatement of all the symptoms took place.

As external applications, we made constant use of sinapisms and fomentations, never resorting to epispastics. The warm bath was also employed with advantage.

From the end of July to this date, we have had occasional cases of Dysentery, but much milder in character, and more readily amenable to medicine. A few doses of calomel and Dover's powder, together with the application of sinapisms, are the chief agents now requisite to subdue the disease.

During the last six weeks our chief complaints have been remittent and common continued fevers, connected generally with hepatic derangement. Their characters have been various. In some cases the onset has been violent, and the fever of a high grade; the sanguiferous system being chiefly involved. The attack in other cases has been gradual, the whole secretory system then appearing disordered, and not unfrequently the nervous. Hence we have torpid liver, skin, bowels, and kidneys, while perhaps the pulse is scarcely indicative of disease. Such cases are dangerous, require peculi-

arly discreet and efficient treatment, and are apt to be long and obstinate in their course. Bloodletting is of doubtful efficacy, except in the earliest period of the disease: but we cannot say, that even then we have derived any decided benefit from it. To bring the system under mercurial influence, and thus to destroy or supplant the train of morbid actions so firmly established, has been a prime object with us. When this could be done, we felt confident of effecting a cure. It is in place here to remark, that although in such instances, the greatest difficulty has been experienced in producing ptyalism; yet, in most other cases, we have noticed a peculiarly strong predisposition to the mercurial sore mouth—so much so, that whenever we gave calomel, we had to guard particularly against ptyalism.

We have had cases of fever, associated with most obstinate torpor of the bowels, and others, accompanied with profuse and watery diarrhœa from the commencement; these requiring the most powerful anti-irritants, and those surprising doses of the most active cathartics.

My colleague has furnished me with the particulars of a case which he attended, wherein the immense quantities of medicine necessary to move the bowels, may seem almost incredible. The patient, a middle aged man, was affected with a low fever, attended by oppression at the stomach, torpor of the bowels, and a thickly furred tongue. Thirty grains of calomel were administered, followed in four hours afterwards by four pills, the whole containing of calomel, aloes, and rhubarb, each 8 grains. These were followed at short intervals, by 8 more of the same kind. No operation resulted, and on the next day, sixteen of the same pills were given, at short intervals, but without any effect. On the succeeding day, ʒis. of cal. aloes. and jalap, in equal parts, were directed to be taken—one half immediately, the other in the course of four hours, if necessary. Both were taken, but the bowels remained unmoved. ʒiij. of the same compound were left on the following morning, to be divided in two equal portions, and taken within a few hours of each other, if requisite. The patient sent word at the close of the day, that all the

medicine was taken, and not the slightest operation procured. 2 oz. of senna with 4 oz. epsom salts, were immediately sent over. The directions were, to make a pint of tea with one-half the quantity sent, and to take one-fourth of it every one or two hours. If this failed, the other half was then to be used in like manner. The directions were observed. Nearly the whole quantity of senna and salts were taken, and four bilious operations were the result. Constant purgation, with large doses of active cathartics, was persevered in, and the man got well.

As it regards Cholera, we are happy in saying we have little to report. From the first of April to this date, we have had but one case, within the usual range of our practice. That occurred on the hills towards Mount Pleasant, in the month of July, and was fatal. It might not have been so; for, the plainest indications which vomiting purging, and excessive pain can give, were disregarded for hours, before medical aid was called. Two cases in one family, about eight miles north-west of this place, and three cases in another family, twelve miles north of it, all of an exceedingly violent character, were attended by my colleague, Dr. Mount.

Intermittent fevers, of rare occurrence for some time past, are beginning to be rather more frequent. The health of this region, however, is generally excellent, and that it may continue so, our vocation, as some slanderously affirm, does not prevent us from sincerely wishing.

Cumminsville, September 16, 1834.

We beg leave respectfully to solicit of our brethren, every where in the West, accounts of the late Epidemics, some notices of which are given in the foregoing articles. They should be brief and condensed, omitting, as far as possible, all matters which are universally present in those forms of disease. ED.

Art. III.—Dr. Locke's Galvanometer.

An Account of a New Galvanometer, invented by John Locke, M. D., *of Cincinnati, in a Letter to the* Editor.

Dear Sir,—The account of the instrument which I have had the good fortune to bring to a surprising degree of delicacy, as it appeared in the two last numbers of Silliman's Journal, was somewhat defective, in consequence of the progressive manner in which my discoveries were made and communicated. This circumstance, together with the general attention which your journal receives in the west, render it proper that I should comply with your flattering request, that I should make a communication to you on the subject.

In the winter of 1832 and 3, the duty devolved upon me to deliver a course of instructions in Chymistry to the first class of the Mechanics' Institute. In qualifying myself with the proper knowledge of the new science of Electro-Magnetism, I found myself unable, from the works within my reach, to get an *intelligible* account of the Galvanometer, or Electro-Magnetic Multiplier. I finally undertook to supply the deficiency by inventing one, dependent upon the principles established by Oerstead. Compelled thus to operate originally, I have probably succeeded better than I should have done with more assistance. The essential principle of the instrument was communicated to Prof. Silliman, in March, of 1833, but the arrangement of the subordinate parts was not completed until December of the same year, when an account of it was published in the Cincinnati Chronicle. A description nearly complete, was published in Silliman's Journal, of April, and an additional account of its *thermo*-electrical delicacy, in that of July of the present year. We shall give an abstract of the whole below, after having given a short description of the original Galvanometer or Electro-Magnetic Multiplier of Schweigger. This, which is the common Galvanometer, consists essentially of from 40 to 100 feet of copper wire, bound

with sewing silk, as bonnet wire is with cotton, and coiled from 40 to 100 times round in the manner of a short skein or hank of thread. This skein of silk-bound wire is bent into an oblong form, like a long link of a chain, say 2 by 5 inches. This being placed edgewise, and a compass needle freely suspended in its centre by a pivot, or by a filament of silk, is ready for use. Let it be placed in the meridian, so that the needle will lie in the same direction as the wires, and pass a current of galvanic electricity through the wire, by connecting one of the projecting ends with the positive, and the other with the negative pole of even an exceedingly small battery, and the needle will be deflected partially or entirely, *at right angles to the wire.* Reverse the current of electricity, and the motion of the needle will be reversed. If a piece of zinc, as large as a five cent piece of silver, be soldered to one end of the wire, this, with the other end of the wire, will form a battery, which, by the application of a weak acid, will deflect the needle perhaps 45 degrees. As this instrument indicates the direction of the galvanic current, and measures its intensity, its name is appropriate. It is remarkable, that although so sensible to *galvanic* currents, it is ordinarily not affected in the least by electricity from the common electrical machine. For a more detailed account of this instrument, let me refer the reader to a work on electro Magnetism, by Jacob Green, M. D., Professor of Chymistry in Jefferson Medical College, Philadelphia; a work which I cheerfully recommend to all who wish to peruse the principles of the science in a condensed form.

Having given this sketch for the satisfaction of those who may not have access to a better, I proceed to a description of the proper subject of this paper.

Description of Locke's Discoid Galvanometer.

The essential part of this instrument, instead of being a hank or heaped up coil, is spread out, and wound over the flat sides of a ring of boxwood.

The outside diameter of the ring is 3¼ inches, and the inside diameter 3 inches. Its thickness is ¼ of an inch. The outside edges of it are cut or notched, like the teeth of a clock wheel, in order to cause it to hold the spiral wire which is wound around in a single layer, the several parallel turns being as close as possible without being in contact, except at the diameter of the ring where an opening of a tenth of an inch is left for the introduction of a magnetized needle within the coil. This flat coil is put into the bottom of a cylindrical box, turned in the shape of a snuff box, four and a half inches in diameter and one and a half deep, outside dimensions; the two projecting ends of the wire being passed through near the bottom of it. Immediately above this coil is the card or divided circle, which is attached to a thin wooden ring. The needle is suspended by a *single filament of the silk worm.* It is made of a simple steel wire, *partly* counteracted in its tendency to settle in the meridian, by being connected with a second and more delicate reversed needle, made of the smallest species of main-spring. This second needle is parallel to the principal one, three-eighths of an inch above it, and with its poles reversed in the manner of M. Nobili. It is intended to act chiefly as an INDEX, and swings above the card. The two needles are firmly connected by a brass wire. The whole is closed by a glass cover, in the manner of a common compass, which it nearly resembles in external appearance. The glass is, however, pierced in its centre by a hole half an inch in diameter for the insertion of a brass tube four inches high. This tube includes the suspension filament which passes through its top and winds on an ivory peg. The projecting wires ascend in an arch, approach within a quarter of an inch, and terminate, the one in a five cent piece of silver, and the other in a corresponding disk of zinc. Where the wires emerge from the box, they are soldered each to a thimble containing mercury for the purpose of forming a metallic pinion with any other apparatus whatever. A magnet, adjustable by a tubular socket, is fixed upon the upper part of the brass tube. The object of this is to render the needle quite "astatic," which had been

rendered partially so by the inverted index needle. This is done by sliding this magnet downward on the tube, with its poles repellent until the needle is just ready to obey its influence and become inverted. I consider it delicately adjusted when a strongly magnetised needle 2½ inches long, weighing 20 grains, will make but three oscillations per minute. It is ascertained by calculation, that the force necessary to deflect such a needle one degree, would be only THE ONE HUNDRED THOUSANDTH PART OF A GRAIN.

Experiment 1st. When thus adjusted, *one application of a wine glass of pure water to the small disks, will generate electricity enough to turn the needle once around.*

2d. But it is in Thermo-Electricity* that this instrument probably surpasses all others as yet in common use. If two half inch disks, the one of copper and the other of bismuth, each connected with the mercury cups, or poles of the Galvanometer, be laid in contact, and the end of the finger be applied to one of them, the animal heat will, by passing from one to the other, develope electricity enough through the whole circuit of the Galvanometer wire, to turn the needle several times round.

3d. If one disk be warmed, ten degrees only, above the temperature of the other, and applied to it, the needle will be turned quite around.

4th. A few filings of bismuth being placed between two small plates of copper connected with the mercury cups, and the finger applied to one of them, the needle was deflected 22 degrees.

It had been ascertained, that electricity had been developed not only by two contiguous portions of different metals, but by two parts of the same metal, unequally heated. In order to form a scale of the different powers of the several simple metals, when two parts of the same kind were used, I instituted a course of experiments last April, in which I used hand heat only, the temperature of the air being 56 deg. F.

* Electricity developed by the passage of heat from one piece of metal to another, either in apparent contact, or when soldered together.

The following table as published in Silliman's Journal, for July, contains the results:

I. *Positive metals* in which the current of electricity from one portion of metal to the other proceeds from the heated portion in *coincidence* with the caloric. Deviation of the needle in 4 seconds,

	By hand heat, from 56º to 95º	By boiling heat, from 56° to 212º
Antimony,	+8 degrees?	+32 deg.?
Silver,	4	16
Copper,	2	8
Gold,	1½	6
Lead,	0	0

My experiment on antimony is questionable as to the *degree*, because I could not fashion this refractory metal into the desired form. Lead is sometimes null, and sometimes variable.

II. *Negative Metals*, in which the current of electricity from one portion of metal to the other, proceeds from the colder in *opposition* to the caloric. Deviation of the needle in 4 seconds,

	By hand heat, from 56º to 95º	By boiling heat, from 56° to 212º
Bismuth,	11 degrees.	44 deg.
Iron,	4	16
Zinc,	1	4
Tin,	Imperceptible.	0½
Lead,	0	0

I have thus stated a few experiments, merely to show the degree of delicacy obtained by the instrument. I shall now, perhaps, be asked to specify its peculiar advantages. It is compact and elegant in its form; being entirely enclosed, it is not disturbed by the motions of the air; the suspension is such as to render the friction or rather "tortion" insensible; and the "MULTIPLYING" WIRE BEING THE NEAREST POSSIBLE TO THE NEEDLE, MUST AFFECT IT THE MOST SENSIBLY.

The whole doctrine of Electro and Thermo Magnetism, in general, and the delicate indications of the Galvanometer in particular, overturning many of the acknowledged laws of physiology, and pointing out a new relation and agency of things, is calculated to excite admiration and astonishment,

and opens a wide field of speculation, both moral and physical. We talk of "gross matter," "clods of earth," &c.—but does not matter approach, in some of its forms, indefinitely near to spiritual essence? What is this "INVISIBLE AGENT" which darts from one solid body to another at sensible distances, producing even the most powerful effects, and yet cannot be intercepted, apprehended, or even perceived in the interval? Is it matter or is it spirit? Is it that to which poetry has forever pointed, and which philosophy has at length reached, the "Bolt of Jupiter" and the "Arm of the Almighty?" Is it not the universal agent by which the Supreme Being operates upon the material world? The discoveries have been great, and yet they are humiliating. How little do we know! How many more "invisible physical agents" surround us and act upon us? Shall the physiological materialist presume upon his narrow field of knowledge, as if nothing existed beyond his ken? May not the doctrines which he denies, be true, even upon his own plan? and may not the repeated violence done to conscience, produce misery physiologically, through invisible agents not yet discovered by him? But I feel myself admonished to retreat from such illimitable fields as those of physics and ethicks, and especially from the belligerent regions of their confines.

Although many of the sanguine expectations which Medical physiologists have repeatedly entertained with regard to electrical discoveries, have not been realized; yet the subject does not lose its interest. The fact that galvanic electricity excites the muscles of recently dead animals into spasmodic action, that certain animals have within their organization a natural battery, that the nerves and muscles form a generating circuit, that the functions of certain organs have been continued by substituting a galvanic battery instead of the brain, the nervous communication with that organ being severed, the strong probability that perception and volition are carried on by electricity; and lastly, that the generation and expenditure of animal heat are constantly attended by electrical changes, still point to further developements, and require that the educated physician should never be unacquainted with the physical sciences.

Fig. 1, is a plan of the ring R; and coil of wire W, half size.

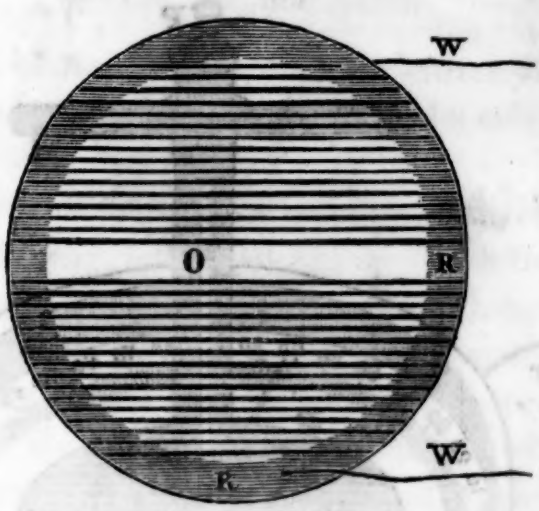


Fig. 2, is a section of the whole instrument. B, the box. R, the ring. W, the wire. N S, the needle; *n s*, the index. D, the dial, cut out in the centre to show the wires, and to permit the needle to be introduced and withdrawn readily, through the opening O. C, the wire connecting the index and needle. G, the glass cover. T, the brass tube, including the suspension filament F.

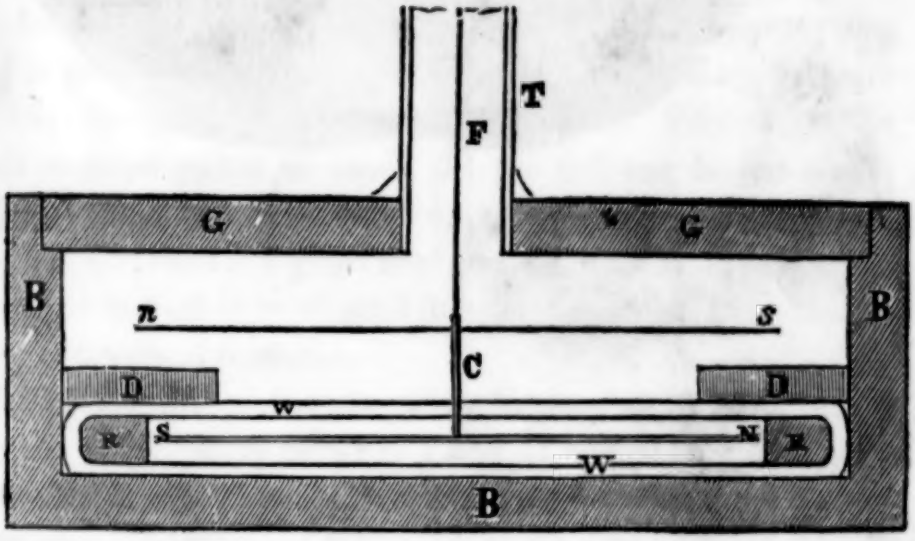
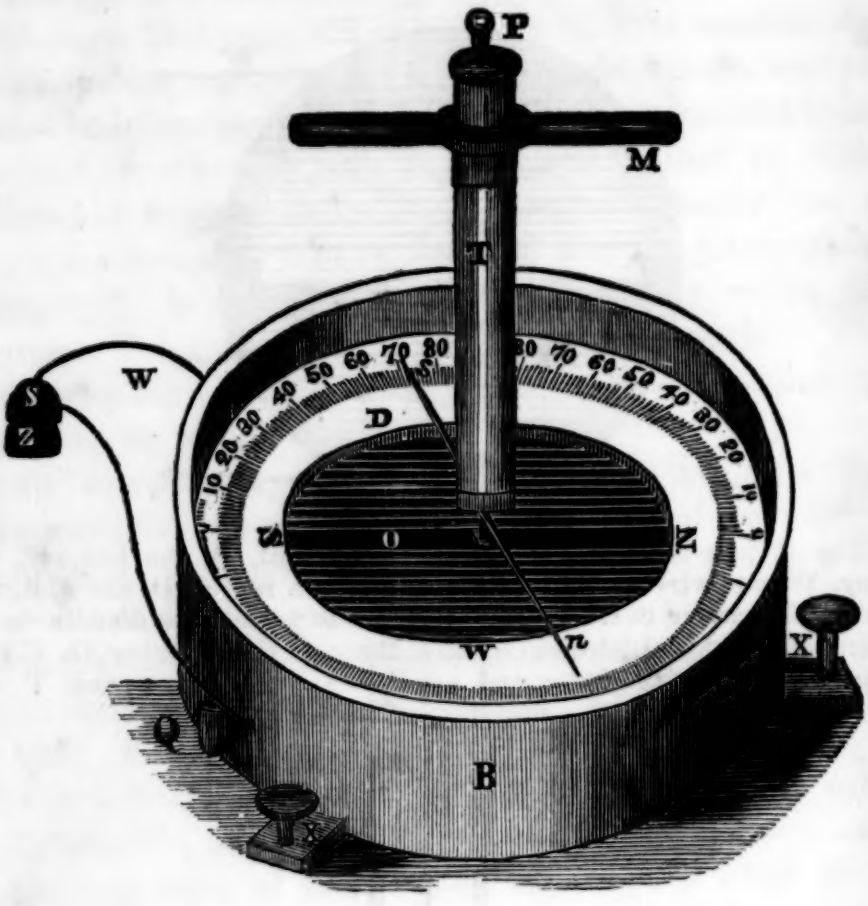


Fig. 3. The perspective view, in which the corresponding parts are marked with the same letters as in fig. 2. P is an ivory pin, by which to raise or lower the needle, by winding up the filament attached to it. Z S, is the battery of zinc and silver. M, the neutralizing magnet. Q, the mercury cups; and X, the levelling screws.



Art. IV.—Loss of Memory for Proper Names.

A Case of partial Amnesia, in which the Memory for Proper Names was lost. By the Editor.

On the 18th of January last, (1834,) a citizen of Louisville, Mr. C. Vansant, aged 45, a saddler by trade, called upon me for advice.

During the war of 1812–14, he was in service, in the neighborhood of Baltimore, and when engaged with the enemy, a musket ball passed along by his left ear and temple, so close as to graze the skin. It, in some degree, affected his senses, and gave him pain about the ear, both of which ceased after a few months. He was subsequently afflicted with long attacks of rheumatism in his limbs; but in latter years has been exempt. About 20 months ago, 18 years after the accident, he was seized, anew, with pain in the temple and around the ear of the injured side, which has continued ever since, both night and day, but is generally worse at night. Its focus is the hollow of the temple, between the ear and the eyebrow. It abates at irregular times, but returns in shooting paroxysms; and is particularly excited by locomotion, speaking, pressure on that spot, and pulling the hair near it. Perfect rest he finds most favorable to ease. In the left ear he has a constant roaring, and the meatus externus is foul; the left eye is watery; he closes it a great deal; he sometimes has pain in it: the sight of both is weak, and their motions unsteady. He has no tenderness of the spine.

About the first of the preceding September, (1833,) he had 12 "fits" (epileptic?) between 7 and 11 o'clock at night. He frothed at the mouth, and was in a state of stupor between them—which continued for two days after they ceased. Since that time, he has had two paroxysms. In regard to pain, he has been nearly in the same condition since the attack of epilepsy as before.

Every time I felt his pulse but one, it was so temperate as not to vary much from a natural condition. His bowels are

generally regular. His complexion pallid, and his expression of countenance languid.

An uncommon, but not unprecedented mental effect has followed on the first attack of epilepsy. All his intellectual operations are somewhat enfeebled, and his associations now and then a little confused, but it is not these, of which I speak. *He has almost entirely lost the power of recollecting proper names, to whatever class of objects they may belong.* When he called on me, he could not tell the name of the city (Louisville) whence he came; nor that of the river, (Ohio,) nor the steam boat (Michigan) on which he had performed the voyage; nor that of the city (Cincinnati) where he then was; nor my own name. To enable himself to find me, he had written my name on a piece of paper from which he read it, when inquiring for my office. At first, (as on that visit he was alone, though his son afterwards accompanied him,) I supposed, for a moment, that he was deranged or idiotic; but soon discovered that his mind was otherwise nearly sound, for his narrative was quite intelligible and well connected, though whenever he came to a proper name, he stopped and had to substitute a description of the object, unless I myself supplied it, from the context of his discourse. I had several interviews with him, and they all presented his infirmity under the same aspect, though once or twice he succeeded, in recalling the name which was desired. In my experiments with him, I did not ask him to recollect the name of this or that object or person, but drew him into such a conversation, as involved them, and observed, that whenever he came to them, he was perplexed, displayed a countenance of anxious effort at recollecting, and seemed impatient under his inability. To give other examples of it, I may state, that he could not recollect the name of his native city, (Baltimore,) nor that of the state in which it lies, though he could converse intelligibly of both. Nor could he recall the name of the state in which he resided—that of Shelbyville, where he had once lived, nor of any of the towns around Louisville, where he then lived. He had been attended more or less, by five physicians of Louisville, one of whom was his

near neighbor, but could repeat the names of none of them, though he could relate what they had done for him. Being a mechanic, he had employed journeymen, but could remember the names of none, while he could recollect and distinctly inform me of their different qualifications. In one of my interviews, he could recal the names of all his children, after studying a little; but when it came to his own baptismal name and that of his wife, he could not proceed. When he was about to leave me, on this visit, he could not ask for his umbrella, because he was unable to recal the name, which was the only instance, in our different conversations, of a failure of memory in regard to common names. Perhaps, in his mind, the idea was that of a proper more than a common noun, for at all times he used the names of common nouns, such as town, river, doctor, medicine, state, boat, &c., without the least hesitation; nor did I observe a single instance of defect of recollection of any verb, adjective, or word belonging to other parts of speech, than proper nouns. Upon putting a slate and pencil into his hands, he was *sometimes* able to write down a proper name and then read it off; but in one case he wrote "Kentucky," instead of Louisville, for the city in which he resides. In his utterance he had some degree of hesitancy, and even stammering, which led me to suppose at first that the defect was not psychological but muscular, and depended on a lesion of the facial nerve, which as Mr. Bell thinks, regulates the function of articulation—the inability, however, to write down proper names, convinced me that it was a defect of memory and not of pronunciation, though the latter was obviously somewhat impaired.

It is evident that this patient has neuralgia and epilepsy, apparently from the injury received on the left temple by the musket ball. Did that injury determine a slow morbid action of the dura mater or cranium of that part, going on to the production of exostosis, or some other organic change? Is the pain which infests that spot, of the nature of rheumatism in the periosteum? Without indulging in conjectures on these points, I shall direct the attention of the reader, to the

fact, that the seat of his neuralgic pain is near to that part of the brain, which the phrenologist regards as the organ of language, situated immediately behind the globe of the eye. Without pledging ourselves to the system of organology, which has no necessary connexion with the psychological arrangement of Dr. Gall, we record this fact as deserving of preservation.

Art. V.—Wounds of the Brain.

Cases of recovery from Wounds of the Brain, and from extensive comminuted Fracture of the Cranium. By Dr. K. Estep, of Stark county, Ohio.

Our object in admitting the following cases, is to multiply the evidences that the brain may be deeply wounded, and the cranium shattered into many fragments, and the patients still live, without suffering any impairment of intellect. Ed.

Case I.—June 23d, 1828—Was called to see the daughter of Thomas Falls, a little girl, eight years old, on whom a board, 5 feet long, 20 inches wide, and 1¼ inches thick, had fallen from the floor above. It had descended end-wise, and struck the child as she lay sleeping on the floor, in the left temple, when a marked depression and softness were observable; the one corner having struck the head immediately below the origin of the temporal muscle, the other probably the arm or side. The right cheek and temple were slightly excoriated from pressure, perhaps from a little sliding motion on the floor—General symptoms, such as are usual in cases of fractured skull—pulse regular, but slow—eyes half open, with permanently dilated pupils—insensibility—vomiting and stertorous respiration.

On the return of the parents, and their approbation being obtained, I proceeded to remove the scalp, by a semi-circular incision, embracing the depression. Turning down the flap,

I found that the intervention of the temporal muscle prevented me from coming at the fracture. Separating with a scalpel, a few of the first fibres of that muscle from the bone, I discovered the breach, and at the same time a quantity of brain and blood burst through the opening.

The extent of the fracture downward, I never ascertained; the depression being so great, that I never either saw or felt the fragments. The quantity of brain that escaped, must have exceeded a table spoonful; that of blood, 24 oz.

June 24th—Patient sensible—asks for, and receives food—bowels constipated—pulse slightly accelerated—gave saline aperients and injections.

25th—Patient tolerably easy, and perfectly sensible.

26th—Dressed the head—wound looks well—a large portion having healed by the first intention.

From this time forward, I did nothing more than apply the proper dressing, and administer aperients when necessary.

In two weeks, the external wound was entirely healed, with the exception of a small space, nearest the fracture, designedly left open, for the escape of whatever matter might accumulate—the child going about in tolerable health, in a fortnight—was entirely restored in three months.

This child, now about fourteen years old, is enjoying good health, and has intellectual powers, on a level with other members of the family.

Case 2.—Dec. 11th, 1830, Solomon Wiseman, 17 years of age, had his skull fractured by the falling of a tree. I was immediately called to the scene, about nine miles distant. On examination, found both the parietal and occipital portions of the cranium involved in the mischief.

The limb of the tree, which may have been 4½ inches, in diameter, had fairly imbedded itself in the upper part of the head. General symptoms, such as are usual under such circumstances—dilated pupils—stertorous breathing—slow pulse—insensibility—vomiting, &c. With little hope of a successful result, I made an incision, beginning at the right temple, and passing round immediately above the crucial spine of the occiput, terminated near the opposite temple. Turning over

the flap, I exposed the whole superior portion of the skull, when the faint hope I might have cherished was extinguished. The whole arch of the cranium was shattered into fragments, the longest of which did not contain two square inches of whole bone, and from that down to half an inch of every variety of figure.

Instead of the natural vault of the skull, a deep concavity, corresponding with the cylindrical form of the limb, presented angles and spiculæ, pointing in every direction. At this stage of the operation, I made a pause, undecided whether to proceed, or close up the wound, and let him die in peace.

As there was yet vitality, and as even a dead body would look more seemly with something resembling a head (which then he had not) I decided on the former. And here no small difficulty presented; for had I removed every fragment, which separately contemplated would have seemed to require it, I should have left the upper portion of the brain, without a bony covering. Pursuing a middle course, therefore removing some fragments and replacing others, I succeeded in restoring the head to something like its original shape. It is worthy of remark, that on removing one fragment, consisting of parts of the right parietal and the occipital bones, the patient, for the first time since the accident, spoke. Of the quantity of blood lost, no proper estimate, in the crowd and confusion of the place, could be made. Many branches of the temporal artery externally, and those of the dura mater internally, were divided and torn up; all of which, however, ceased bleeding spontaneously. Having closed the wound and bandaged the head, I took my departure, with this injunction to the friends—that, if contrary to every rational hope, he should survive to the third day, then to send for me.

Dec. 21st. Contrary to my forebodings, a messenger arrived, requesting my attendance. Found the patient sensible. When asked who I was, answered correctly. Said he remembered my dressing his head, though his eyes were then and now hermetically sealed. Removed the applications and gave aperients, which, with simple dressing, and occasional blood-

lettings, constituted the outline of the treatment, till June 2d, when a profuse hæmorrhage ensued, and recurred at intervals, but was always arrested by saturnine preparations, or digitalis.

May 22nd. The external wound is healed with but a trifling exception, from which a sanious discharge continues to distil—found a fragment of bone an inch long, half an inch wide, lifeless, and *partially dissolved*, keeping up irritation; enlarged the opening and removed it—found a bone deposited beneath, and permanent indentation of course remaining. Having removed this fragment, it is now before me, and the inner surface presents the appearance of having been preyed upon by some insect—being almost entirely eroded—the outer surface, but partially dissolved.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Art. VI.—Pulmonary Consumption.

Illustrations of Pulmonary Consumption, its Anatomical Character, Causes, Symptoms, and Treatment. With 12 *Plates, drawn and colored from Nature.* By George Samuel Morton, M. D., Physician to the Philadelphia Alms-House Hospital, &c. pp. 183. Phil. 1834—Key and Biddle.

Of the various topics which divide the Profession in the present day, Morbid Anatomy is neither last nor least in the interest it excites. We are advocates for its study, but would not class ourselves with those *ultras*, who seem to regard it almost sufficient of itself, to qualify men for the practice of medicine. Were it the province of the profession to cure diseases after they had produced permanent alterations of structure, we should ascribe to it a higher grade of utility than we are now disposed to assign. All the world, however, is aware, that derangements of structure are, generally, irreparable; and that a knowledge of them, is only beneficial, by disclosing to us the seat and kind of diseased action, which had previously existed, and which was the proper object of practical medicine. As far then as it can thus instruct us, and no further, this study contributes to the advancement of therapeutic medicine; for the proper business of the physician is to subdue morbid action, and thus prevent morbid structure.

It will be conceded, that in acute maladies, the diseased actions which build up diseased structure, are, in most cases, those which are designated by the term *inflammation;* and that the varieties of morbid structure, found after death, gen-

erally result from the difference of morbid organization, in which lesion has taken place. If these propositions be admitted, it follows, that unless inflammation requires a different treatment, when seated in one tissue, from what is necessary when it invades another, it cannot be, in practice, of any great importance to know its exact locality, or what particular variety of disorganization it is effecting. Thus to borrow an illustration from the groupe of diseases which are the subjects of Dr. Morton's book, it does not signify very much, that the physician should know, whether a pectoral inflammation is seated in the pleura, the mucous membranes or the intervening cellular tissue, if, in all cases, blood-letting, antimonials, digitalis, and counter irritants are the remedies. But is it not true, that all inflammations, wherever located, and to whatever abnormal aspect the parts are tending, are to be met by the treatment which is called antiphlogistic? We think it is, and hence the first business of the physician, is to scrutinize the state of the functions, and decide that the condition of the system is inflammatory. Having done this, he proceeds to the use of antiphlogistics, and in all cases employs those which are generally the same. In this way we observe men, who know but little of morbid anatomy, successfully engaged as physicians, and see them cure diseases without being able, with any degree of certainty, to assign the *particular* tissue in which they are seated, or predict the morbid appearance after death, should their *modus medendi* prove ineffectual.

We would not, however, discourage the study of morbid anatomy, but only limit its importance to what seems to us sustainable ground; and hence we hail the appearance of Dr. Morton's book, as among the first contributions to this department of knowledge, which our countrymen have made; and hope it will be followed by many others equally faithful, especially in the graphical delineations, where the principal merit must necessarily lie.

Dr. Morton's chief object is to illustrate one form of pectoral disease—*pulmonary consumption;* but his first chapter presents a brief elementary view of the various diseases to

which the lungs are liable, from which we shall extract the article MELANOSIS as a specimen.

"*Melanosis* is the name given by Laennec to masses of a black or blackish brown color, occasionally found in the lungs, especially in tuberculous persons. This matter, according to the later views in pathology, is merely an excess of secretion of the pigmentum nigrum, modified no doubt by disease; in fact it seems to bear much the same relation to the pigmentum nigrum that tuberculous matter does to the healthy albuminous secretions of the pulmonary tissue. Melanosis is mostly seen in amorphous masses, or irregular laminæ, as represented (Pl. III. fig. 2,) or in black spots in the cellular tissue immediately beneath the pleura. (Pl. XI. fig. 1.) It is sometimes encysted, and looks then not unlike a bronchial gland. Pathologists also speak of this secretion in the fluid form, a modification I have not witnessed. I am disposed to think that melanosis is less frequent in this country than in Europe. In the Parisian hospitals, Bayle met with it in about a twelfth part of his autopsies." p. 16.

The second chapter is devoted to the anatomy of tubercular matter; which, according to our Author, is found in two very different forms—concrete and gelatinous,—the former of which presents several varieties.

Of the concrete tubercle he recognizes, along with the latest and best writers, three kinds—1. Miliary tubercles, which are generally of a yellowish or greenish, gray color, varying in size from a mustard seed to a cherry stone, opake, or partially transparent, solitary or aggregated, and of various shapes. 2. Crude tubercles—the preceding variety tending to suppuration—color often a yellowish, white tint. 3. The gray semi-transparent matter, consisting of masses which are smooth, moist, and shining; when cut—apparently dense, but crumbling under the finger—the air cells of the part in which it is found entirely filled up or wanting.

"This variety, like the following one, manifestly results from an abundant secretion of the tuberculous matter through a large portion of parenchyma at the same time: masses very similar in appearance, however, result from the slower process of miliary accretions, especially when the latter, assuming an angular form, coalesce into a uniform mass, as may be inferred from Pl. II. fig. 2." p. 20.

Gelatinoid infiltration is sometimes harder, sometimes softer,

than jelly; now and then semi-transparent and rose-colored, but oftener colorless, or grayish or olive. It fills up the interstices between the common tubercles, or pervades the cellular tissue in a homogeneous manner. It frequently presents the aspect of pure albumen; showing that the opinion of Cruvelhier, that tuberculous matter is secreted in a fluid state, is sometimes true.

"The gelatinoid infiltration is an example of tubercular matter secreted in the semi-fluid form; it is evidently a rapid secretion, and appears in some instances to be converted into crude tubercle by a process almost equally rapid, until the lung becomes a dense, and seemingly inorganic mass, without a trace of respiratory structure." p. 21.

Encysted tubercle is a rare occurrence. The cyst is fibrous or cartilaginous. In the dissection of a negro man, Dr. M. found the following example of this variety.

"*Right lung* firmly adherent above; the two upper lobes were loaded with tubercular matter in large masses, and mostly in the crude state: that in the superior lobe formed an ovoidal mass the size of a goose-egg, and was surrounded by a distinct, white, cartillaginous, cyst, about a line in thickness: the cyst touched the pleura laterally, but was easily separable from it, the pleura itself being much thickened and adherent at these places. The thin edge of the lung towards the mediastinum, was filled with tubercles, but the cyst formed a perfectly distinct boundary between them and its own contained mass, which was of a greyish yellow color, opaque, and mottled with darker points: its upper and posterior portions had already begun to suppurate, there being a number of small vomicæ that communicated freely with each other." p. 23.

Tuberculoid granulation (*granulationes miliaires* of Bayle.) Dr. M. with Andral, supposes to be the air cells of the lungs, dilated and filled up by inflammation. If so, they are totally distinct from the tubercle. After stating some facts touching this matter, our author adds—

"I am therefore inclined to believe that these substances hold the same relation to the gray induration of pneumonia, that tubercles bear to tubercular infiltration: and if they should be subjected to analysis (which I am not aware has ever been directed to these bodies in particular), they will probably prove to be composed of fibrine, and not, like tubercles, of albuminous matter." p. 25.

Dr. Morton refers to the indestructible character of the cellular tissues, and supposes that it surrounds and nourishes the tubercles, although its arteries and veins are perhaps generally obliterated early in the disease.

According to Sherard, 200 grains of unsoftened tubercular matter consisted of—

Albuminous animal matter,	98.15
Muriate of soda, Phosphate of lime, Carbonate of lime, Oxide of iron, a trace.	1.85
	100.00 p. 27.

Tubercles, it is well known, are developed in all the tissues of the body except the horny, but are particularly common in the lungs. Their softening constitutes the essential anatomical character, of true pulmonary consumption. The term suppuration has been used to express this change, but suppuration commonly takes place in the surrounding parts, and is, perhaps, excited by the presence of the tubercle. When the contents of these abscesses make their way into the bronchial tubes, the tubercular and purulent sputa is expectorated, in the place of the mucus thrown off by the sympathizing mucous membrane. Cavities are now formed as a matter of course, and are of various sizes, according to the dimensions of the masses of tubercular matter. But few of these masses make their way to the bronchial vessels, and hence in cutting through the lungs, we in many instances, encounter small and confined collections. But a few days since, we saw the same thing in a tuberculous liver.

"The softened tubercular matter of abscess is opaque, of a caseous consistence and yellowish color; it at first more or less completely fills the cavities, and is evacuated, as the disease advances, by one or more bronchial tubes, which, leading from the abscess, have their lining membranes continuous with it. The matter of abscesses is sometimes hard, dry, deposited in successive layers to considerable thickness, and peels off like the coats of an onion.

We often find small abscesses completely filled with this semi-fluid caseous matter; but after they have been once emptied, it is observed

chiefly in irregular masses on their parietes, while the function of the cavity consists in the elaboration of a fluid which has all the characters of pus.

This purulent matter varies in its color and consistence in the same way as in abscesses in other parts of the body; sometimes being straw-colored, thick, inodorous and viscid; again thin and serous, sanguineous, ichorous, fœtid, &c.

This secretion escapes from the cavity by one or more fistulous ducts, the remains of bronchial tubes, through which it is transmitted to the trachea and thence expectorated. But it occasionally happens, that when suppuration occurs in the midst of extensive tubercular masses in which no bronchial tubes remain, the abscess may continue for a length of time imperforate; finally, however, it meets with a bronchial ramification, and I have known the egress of pus to be so great and so sudden as at once to strangle the patient.

Physicians, since the time of Hippocrates, had given the name of *vomica* to abscesses of the lungs consequent to pneumonia. Laennec, however, from the supposed infrequency of phlegmonous abscesses in those organs, restricts the appellation to the cavities formed by the softening of tubercules." pp. 31—2.

Chapter third is devoted to the *pathology of phthisis*. It is well known to all who have examined those who died of this disease, that the upper part of the lungs is the chief seat of tubercles. Dr. M. ascribes this, *perhaps* correctly, to the compression which he supposes that part to suffer, more than any other, from the bony structure enclosing it.

Our author adopts the opinion of Andral, that the secretion of tubercular matter is a disordered state of the function of serous secretion, which exists in all the cells and areolæ of the body; and, with the author just quoted, as well as Bayle, Laennec and Louis, believes that tubercles are not the offspring of inflammation, as Broussais argues. We cannot entertain a doubt of this opinion, as in addition to the facts furnished by the distinguished pathological anatomists here enumerated, we have seen numerous *congenital* tubercles, in the liver, spleen, and intestinal parieties of a child, with the parts enclosing them perfectly sound.

On the destruction of large blood-vessels, in tubercular abscesses, our author has the following observations.

"The manner in which the blood-vessels are destroyed in tubercu-

lar disease, has never, that I am aware, been satisfactorily explained. The result of many observations directed to this point, leads me to the following conclusions: the cellular tissue constituting the outer coat of the artery, secretes its own tubercular matter, and preserves the form of the vessel until suppuration takes place. The middle coat of the vessel meanwhile preserves its red color; but between it and the internal coat a second layer of tubercular matter is observed, doubtless arising from a lamina of cellular tissue connecting those coats together. The inner coat, however, does not appear to change during the whole process of tubercular disease, but retains its pearly, diaphanous, and polished character. In order to trace this pathological condition of the blood-vessels, it is necessary to examine such of them as traverse a large tubercular mass, after the latter has become softened, but anterior to suppuration: if the vessels then be separated by cautious percolation with water, and a trunk be cut across, the several facts above mentioned will be rendered obvious. If, however, the examination be not made until after suppuration has taken place, the cellular tunic of the artery will be found to have granules or masses of tubercular matter adherent to it, not derived from the contents of the abscess, but from its own proper tissue: the portions intermediate between these granules are of a florid red color, and appertain to the denuded middle coat of the artery. This tuberculous degeneration of the blood-vessels is obviously derived from the vasa vasorum themselves." pp. 36—7.

Our author examines and rejects the theory of Sylvius, supported by Duncan and Broussais, that tubercles arise from an inflammation of the lymphatic glands, alledging that anatomy has not even shown the *existence* of such glands in the lungs, and finally concludes with Andral, that—

"The pathology of tubercular disease may, I think, be summed up in the following manner:

"1. Tubercles are an altered secretion of the albuminous halitus proper to the cellular tissue forming the parenchyma of organs.

"2. Inflammation is not necessary to their developement.

"3. The cellular tissue which envelopes and intersects tubercles, sooner or later takes on inflammation, and secretes pus; by which process the tubercular matter is eliminated, and an abscess is formed." p. 39.

The fourth chapter opens with an inquiry, whether we know of any physical signs, by which to determine that an individual has a tubercular diathesis, and whether it can be identified with the scrophulous predisposition, and the decision of both questions is in the negative; from which, relying on our own observations, we are not inclined to dissent. Still

it cannot be doubted, that a great many persons have an hereditary tendency to this malady. Of the causes which originate this predisposition we know nothing certain; but a cold and variable climate, especially in the neighborhood of the sea, would appear to be one of the most efficient. It operates, we may presume, by disturbing the vaporous interstitial secretion, of which we have already spoken.

This brings us to consider the *exciting* causes of phthisis, the most profitable study which the whole subject presents.

Chronic catarrhal inflammation, leads to the production of tubercles, by disturbing the pulmonary circulation and secretion, and on the other hand tubercles, when they soften, not unfrequently excite bronchitis. Exposure of the surface of the body, inadequately promoted, to a cold and damp atmosphere, has, without exciting catarrh, promoted the formation, or the softening of tubercles. Mechanical irritation of the mucous membrane, may produce the same effect. In these cases, Dr. M. thinks the agitation of the lungs, may be the chief cause of the developement of a tubercular condition; but we may readily suppose, that the cellular tissue sympathises with the mucous. The measles sometimes excite the lungs to develope tubercles. Pneumonia appears to produce the same effect in two ways, by disturbing the cellular secretion of halitus, and by the permanent induration of a portion of the lungs, mechanically disturbing the circulation.

"There is another series of causes that acts primarily upon the apex of the lung, producing congestion, which is often rendered unequivocal by the appearance of hæmoptysis. Among these causes may be enumerated, excessive muscular exertion in lifting, running, boxing, rapidly ascending stairs, &c. Also loud and continued vociferation, whether in singing, laughing, shouting, or speaking; also the blowing of trumpets and other wind instruments.

Let me repeat, that in such efforts the respiration is temporarily suspended, and of course with it the arterialization of the blood, while the latter fluid rushes to the lungs in greater quantity and with greater velocity than ever. An apoplectic and congested state is the consequence, sometimes accompanied by hæmoptysis, at others by a rapid succession of alternating chills and heats, excessive languor, &c." pp. 44—5

Our author rejects hæmoptysis as a cause of tubercles, re-

garding them rather as a consequence. We recollect a case which occurred in our own practice, many years since, that might be cited in support of this conclusion. A gentleman, accustomed to write many hours at the desk every day, was seized with hæmoptysis, without having been at all aware of any disease in his lungs. He passed rapidly into phthisis, and died within a short time, of an inflammatory affection of the brain, apparently resulting from an obstruction to the blood in its passage through the lungs. On examination after death, his lungs were found tubercular throughout. But few of them had yet passed into a state of suppuration.

After referring to the pernicious effect of certain trades and occupations which keep the body in constrained and unnatural postures, our author adds—

"There is another source of consumption, the more to be deplored because it is sanctioned by the tyranny of fashion: I allude to the custom of *tight lacing*. It is well known that this practice, if commenced in younger life, and persisted in, greatly diminishes the lateral diameter of the chest, and necessarily cramps the lungs, deranges their functions, and disorganizes their structure. In those who are predisposed to consumption, I cannot imagine a more certain mode of inducing it." p. 45.

The debilitating passions, nostalgia, melancholy, and other affections of this kind, are all, in the opinion of the author, capable of promoting the formation or softening of tubercles.

Under the head of influence of age, he presents us with a tabular view of the epochs of life, at which 281 patients died in the Philadelphia Alms House, which we extract.

"Under one year,	3
From one year to ten,	1
From ten to eighteen,	4
From eighteen to thirty-five,	142
From thirty-five to forty,	51
From forty to fifty,	42
From fifty to sixty,	20
From sixty to seventy,	12
From seventy to eighty,	3
From eighty to ninety,	2
From ninety to one hundred	1" p. 48.

To the question of the relative prevalence of phthisis in the two sexes, our author has not collected facts for an answer.

Chapter five is on the symptoms of consumption. We shall not undertake to analyze it, as they are set forth in all the books. The following case is not without interest.

"*Disappearance of cough nine days before death, and remarkable absence of the other symptoms of phthisis.*—John Brady, a mulatto hostler, aged twenty-nine, was admitted into the Philadelphia Almshouse hospital, in December, 1832, with a troublesome cough, extreme languor, and corresponding mental hebetude. He remained in the house all winter, and came under my care on the 1st of February, 1833. Complains of nothing but inordinate fatigue and weariness; assures me that he has never had hæmoptysis, pain, or night-sweats, nor have any of these symptoms been noticed since admission: coughs considerably, but does not appear to be distressed by it. Expectoration scanty. The stethoscope proves the respiration to be very dull in the upper half of the left lung.

February 6th. Cough and expectoration less than ever. Lethargic and almost unconscious.

February 8th. Cough and expectoration have ceased. Complete aphonia.

February 10th. Somewhat revived, but cannot speak. Retention of urine, which flowed freely through the catheter. Appears to suffer pain in the lumbar regions when moved. Involuntary fœcal evacuations.

February 14th. Pulse better; voice returned so as to be intelligible; urine and fœces under control of the will, but no cough; has, however, subsultus tendinum, facies hippocratica, and the same languor which has induced him to lie in one position, on his back, for nearly two weeks past.

February 17th. Died.

Autopsy, assisted by Drs. Mason and C. A. Porter.

The *right lung* was free, and charged with tubercles in all its lobes, but especially in the upper one; no vomicæ and no infiltration.

Left lung adherent throughout by slight membranous laminæ, and literally filled with tubercles in every stage of development, from minute granules to vomicæ, though the latter were mostly not larger than a small filbert. This lung could have subserved no part in the respiratory function for a considerable period before death.

Heart natural.

Liver, *kidneys*, and *bladder* healthy.

Remarks —This case is highly interesting, inasmuch as it proves to what extent tuberculous disorganization may proceed in the lungs, without producing the usual symptoms of phthisis." pp. 53—4.

The next two chapters are dedicated to the complications of phthisis with other maladies. Our author has met with four cases, in which it apparently gave rise to *fistula in ano*.

We have seen several. As it has occurred but seldom to Laennec and Andral, it would appear to be less frequent in Europe than the United States. Destruction and absorption of the bronchial tubes after the air cells, to which they lead, have been filled up, and dilitation of the bronchia, are consequences of phthisis. When the pulmonary abscesses approach to the pleura, inflammation of that tissue with consequent false membranes, may supervene. In some instances the ulceration has passed through the pleura pulmonum into the sac of the pleura, which becoming the receptacle of the tubercular and purulent matter, has been violently irritated. Gangrene of the lungs, occasionally supervenes on phthisis. A more remarkable complication, was a single case (too long to be extracted) in which a tuberculous abscess of the lung, communicated by a fistulous opening with an abscess on the back. After citing a case of phthisis, complicated with diseased liver and jaundice, our author has the following—

"Dr. Wilson Philip supposes that one-half the consumptions of Great Britain originate in hepatic derangements; yet he adduces but slender evidence of his opinion; nor do I hesitate to say, that in this country it is by no means corroborated. It is true that I have often observed functional derangement without being able to detect any organic lesion of the liver; but again, in a great number of cases, I have found that organ unimpaired.

"In truth, every practical pathologist must have had occasion to notice, that the liver is often greatly diseased without having given any prominent characters to the patient's symptoms; and again, there is often violent gastric irritation, with pain, nausea and vomiting, and other dyspeptic signs, without any evidence, from post mortem appearances, that the liver had any active part in the complication. I am satisfied that the hepatic affections are in most instances consecutive; for the adipose transformation (the most frequent of these affections) appears to be one of the derangements that follows, and is almost always dependent upon tubercular disease of the lung.

"It has even occurred to me, that persons who have disease of the liver, are less liable than others to tubercular consumption; and that where the lungs are involved by hepatic disease, is rather by the transmission of simple inflammatory action.

"The adipose transformation of the liver is not unfrequent: in these cases the surface preserves its smoothness, but is mostly of a dull yellow color speckled with red: within, it is either wholly or in part transmuted into a yellowish fatty substance, which in the early stage is irregularly mingled with the natural color of the liver, giving it a marbled

or mottled appearance. I have chiefly noticed this change in persons of intemperate habits." pp. 95—6.

The cure of phthisis after the lungs have become cavernous from tubercular suppuration, could not be expected, and still such cases have occurred. Dr. M. has met with one which from the great infrequency of such encouraging instances, we shall transcribe, with his remarks:

"Case 28. *Complete cicatrization of the several tuberculous abscesses.*—A lady, aged thirty-two years, of strong constitution and good frame, but of a nervous temperament, with dark hair and brunette complexion, had been for some time under the care of Dr. Hodge, for an attack of severe nervous irritation, when, in the absence of that gentleman, I was requested to see her on the 6th of May, 1833. On my arrival I found her dying, and she survived but a few hours.

Autopsy, by Dr. Hodge and myself. There was no obvious emaciation.

The *ventricles of the brain* were nearly full of serum, but the organ itself was healthy, and no trace of tubercles was observed. The membranes, especially the pia mater, were highly inflamed and injected, the latter being charged with serosity, and having on its surface two or three small patches of inflammatory exudation.

The *thorax* was contracted in its antero-posterior diameter; and on removing the pectoral muscles, the five or six superior ribs were observed to be considerably depressed at their sternal extremities, where their cartilages joined them at a remarkable angle which protruded into the thorax. The *left lung* adhered at its apex, at which point the pleura was deeply contracted or puckered: within was observed a rounded white mass, about an inch in diameter, composed of granules of a cartilaginous firmness; this was obviously a cicatrized abscess; and in its centre were two or three crude tubercles. The remainder of the lung was perfectly healthy. The *right lung*, like the left, adhered at the apex, where the pleura was also deeply sunk and puckered: beneath one of these plications was the remains of an old, but very small abscess, half filled with granular matter like that in the other lung, excepting that it was of a darker color; the remainder of the abscess was in a suppurative state, and contained yellow pus. Close by were the evidences of a second cavity the size of a filbert, but perfectly filled and consolidated by white granular matter, precisely like that in the left lung. The remainder of the parenchyma was healthy, excepting only a small calcareous concretion towards the base of the lung.

The *liver*, *spleen*, *stomach*, *intestines* and other organs, were examined, and appeared to be unimpaired.

Remarks.—The unexpected morbid appearances of the lungs induced me to inquire into the previous history of the patient; when I

was informed by a near relative, that in early life she habituated herself to excessive tight lacing; but although she had never experienced any obvious ill effects from this practice, she had of latter years discontinued it, from a conviction of its injurious tendency.

It seems probable, therefore, all circumstances considered, that the lungs became tuberculous and cavernous, from the irritation of mechanical pressure; but on the latter being removed, the morbid secretions ceased, and the cavities became cicatrized and obliterated in the manner just mentioned. Can there be a doubt, that if this lady had persisted in the unnatural confinement of her respiratory organs, the tuberculous disease would have extended, the abscesses enlarged, and the disease become a fatal malady? The predisposition of phthisis being slight, it was suspended by the removal of the exciting mechanical cause; showing what important results physical education may produce on the human frame.*

Laennec seemed disposed to anticipate the cicatrization of abscesses in a much larger proportion of cases than experience is likely to realize. Besides, as in *Case* 27, one abscess with its fistulous canal may undergo this process at the same time that innumerable tubercles and numbers of abscesses remain in a state of active irritation: so that the cicatrization removes but a thousandth part of the disease, and affords no sensible relief to the patient.

"It may in general terms be assumed," says M. Laennec, "that when the sputa are yellow and opaque, the emaciation considerable, the hectic intense, these symptoms are less unfavorable when conjoined with manifest pectoriloquy, than when they exist without the latter phenomenon; because, in the first instance the symptoms may be attributed to the efforts of nature in softening and removing the tuberculous mass, and we may indulge the hope that they will cease when this process is completed, provided the remaining portions of the lung be in a healthy state. Whereas, in the second case, we may suppose the existence of a great number of tubercles, which will exhaust the patient before they can become softened and form ulcerated cavities."†

But the complete uncertainty of an accurate diagnosis in such cases must be obvious to every one; and although I have been able to record a solitary example of almost perfect cicatrization, and consequent spontaneous cure of what may be called a case of accidental phthisis, the instances are so rare that they must be regarded as extraordinary exceptions to a general law of nature." pp. 99—100—1.

Chapter 8th treats of the signs of phthisis, derived from percussion and auscultation. As we have gone fully into this subject, in our review of Laennec, in a former volume, we

* "Very straight lacing and straining for a fine shape, hath made many a fine girl spit blood, and ruined the lungs by preventing a full and free respiration." —Reid on Consumption, p. 199.

† L'Ausc. Med. t. i. p. 128.

shall be content with an extract on the signs afforded by the stethoscope.

"1. *Imperfect, or partial respiration.*—When tubercles are agglomerated, or when tubercular matter has infiltrated the parenchyma, the stethoscope of course yields a dull or diminished respiration; in fact, we often observe the respiration to be obsolete in some places, imperfect in others, and again full and sonorous. These phenomena, if repeatedly obtained from the superior lobe, leave scarcely a doubt of tubercular disease. But, as before stated, when tubercles are few, and dispersed in an otherwise sound lung, they cannot sensibly affect the vesicular respiration; nor can any physical signs with which we are acquainted, detect them under such circumstances.

"Unfortunately, however, this disease is not often stationary for any considerable period; and the changes which we have seen to characterize its second stage, are ascertained by the stethoscope with singular precision.

"2. *Cavernous respiration.*—When the tubercular matter has softened, and made its way into the bronchia, an open abscess is necessarily formed: the existence of this change is readily detected by the stethoscope, for the air can be distinctly heard to enter the cavity at every inspiration. When the cavity is large, and the bronchial tubes opening into it are small, the air enters the former with an audible puffing sound, which has received the name of *amphoric respiration.* Where the cavity contains considerable fluid, as frequently happens, in addition to the cavernous respiration we hear a gurgling sound, not unlike that produced by blowing gently into one end of a tube while the other is immersed in a phial of water. This is the *gargoulliement* of the French, and sometimes exists to such a degree, that there is no exaggeration in illustrating it by supposing a bellows to be used in place of the glass tube.

"3. *Pectoriloquy.*—This name has been given by Laennec, to a very singular phenomenon, which can only result from an abscess in the lung. Thus, if a cavity is situated near the surface of the lung, and at the same time communicates freely with the bronchia, every word the patient utters appears to traverse the stethoscope, and is conveyed to the ear of the operator as distinctly, in many instances, as the sound of the voice in conversation: such is *perfect pectoriloquy.* When, however, the cavity is small, or deep-seated, or has not free communication with the bronchial tubes, a modification of pectoriloquy is heard, called *imperfect,* because the sound of the voice appears to remain at the end of the stethoscope, not unlike the words of a person who speaks through a partition. Perfect pectoriloquy is an unequivocal proof of an abscess in the lung; though the existence of dense adhesions, the effusion of water into the pleura, and other causes, may prevent pectoriloquy from being heard, or at least render it obscure and doubtful, even where abscesses are evident from the other physical signs already noticed." pp. 116—17.

The next and last chapter, the longest in the book, is devoted to the treatment of phthisis. Anxious to know how this can be conducted with success, we labored with some impatience to reach it, but, as our fears suggested, we found nothing to gratify us. Whatever the profession can accomplish in the way of prevention, they certainly have not yet discovered how to cure tubercular phthisis; and we very much fear they never can. The occurrence, now and then, of a recovery by the cicatrization of the abscesses, and a cessation of the softening of the tubercles, both, the effect, apparently, of some spontaneous change in the constitution of the patient, holds out little encouragement to the physician as to the power of his recipes. Our author is fully aware of the actual state of the case, and, therefore, commences his chapter with instructions for the treatment of particular symptoms, in which we shall follow him; beginning with the—

"*Hemorrhagic symptoms.*—Pathological anatomy establishes three facts to guide us in the treatment of phthisis; 1st, That the disease primarily invades the apex of the lung: 2d, That it commences by congestion of the parenchyma: and, 3dly, That, in a majority of cases, the congestion is manifested by hæmoptysis. It follows, therefore, that the judicious treatment of the latter symptom is of the utmost importance to the patient, and consequently claims the scrupulous attention of the physician.

* * * * * *

"In persons of general good health, in a first attack, the pulse being strong and the system feverish or excited, bleeding from the arm is indispensable; and the free and timely recourse to it may save the patient from the most hopeless consequences. Ten or twelve ounces of blood, taken rapidly from a large orifice, may divert the current of the circulation and relieve the pulmonary congestion. With this primary precaution may be associated some internal remedies, such as spirits of turpentine, elixir of vitriol, common salt, opium, sugar of lead, &c. Any one of these, repeated a few times at short intervals, will answer a good purpose. If by these means the hemorrhage is not speedily relieved, let two or three cups be placed on each infra-clavian region: but whether the cups be necessary or not, it is always desirable to establish a drain there, in the first place by a blister and subsequently by an issue, or tartar emetic plaster. Perfect rest, and a diet of gum water and farinaceous food, will generally restore the patient so much in the course of a week or ten days as to permit of removal to the country, which is of the utmost importance to convalescence; for what most promotes the general health, will most promote absorption of the con-

gested blood,—without which process disorganization must rapidly follow.

* * * * * *

"When, however, hæmoptysis takes place after a protracted and unequivocal manifestation of other phthisical symptoms, or when it recurs after an interval of two or three months, a totally different treatment is demanded. To bleed from the arm, or otherwise to reduce the strength of the patient, is in such circumstances inadmissible; for if by a cautious use of the stethoscope, aided by other signs, the lungs are found to be cavernous, I am convinced that active depletion, in any form, only tends to aggravate and hasten the disease. What good can be expected from reducing the strength of a person, who suffers a depletion from an abscess in the lungs? The most that we can do in this variety of hæmoptysis, is to check it by the internal use of the medicines above named, and the establishment of an issue below one or both clavicles. Tonic and alterative medicines, such as will be hereafter mentioned, are also extremely important.

"In the treatment of hæmoptysis, much often depends upon having the shoulders of the patient somewhat elevated, enjoining perfect rest, and prohibiting conversation." pp. 119—20—21.

We entirely concur with our author in the restrictions imposed on the practice of blood-letting in the last of these extracts; and are disposed, also, to unite with him in the following prohibition:—

"Once for all, I must denounce the practice of applying cold to the surface of the body to relieve pulmonary hemorrhage; it is contrary to every principle of pathology; and without materially checking the flow of blood, drives still greater quantities of it to the lungs, thus increasing the hemorrhagic congestion, and rendering the recurrence of the disorder more alarming than its onset." p. 122.

We should think, however, that the *inhalation of cold air*, in these cases, as proposed by Dr. Charles Drake, of New York, would be unobjectionable, and might be productive of good effects, if patients could be made to understand the difference between its application to the mucous and the dermoid surfaces, and, thereby, rendered willing to employ it.

Catarrhal symptoms.—Our author has found these removed by cups or leeches below the clavicles, gum water acidulated with lemon juice and containing a little morphia and tartar emetic. All very good, but bleeding from the arm and emetics are often more effective.

"The following prescription will be found a good one:

℞. Mucilaginis gummi arabici, oz. xvi.
Syrupi tolutani, ℥j.
Morphiæ sulphatis, gr. iss. vel ij.
Antimonii tartarisati, gr. ij. Misce et signa.

A table-spoonful to be taken every two hours. When from any cause the antimony is objectionable, it may be replaced by a dramch or two of sp. nitri dulcis." p. 123.

We have found in this and many other varieties of subacute pulmonary inflammation, the following *formula* of so much service, that although we have already asked the attention of our readers to it, in a former number, we feel constrained to repeat it here.

℞. Arab. Gum. Mucilag. ʒviij.
Digital. Purp. Tinct. Satur. ʒij.
Opii. Camph. Tinct. ʒij.
Antinc. Tart. gr. ij.
Misce.

A table-spoonful every 2, 4, or 6 hours. If much fever be present, the paregoric must be omitted. When the pulse has begun to feel the impress of the digitalis, it must be given more sparingly. Should the patient become costive, half an ounce of sulphate of magnesia, may be added.

Dr. M. very properly cautions his readers against the excessive use of *blisters* in this affection, as he has often seen (what has fallen under our own observation) an increase of fever from their great irritation.

Hectic fever.—Our author, near the beginning of phthisis, when the pulse is full and hard, recommends bleeding, but thinks, on the whole, that the lancet should be used sparingly. If the pulse become more frequent after bleeding, he avoids the repetition. The rule should have been stated more explicitly; as the *first* effect of bleeding, in all cases, is to render the pulse more frequent. Should it be more frequent in the next paroxysm, no further venesection is at that time admissible. Our author advises digitalis, mild aperients, acidulated mucilages, and those ancient and venerable panaceas, the neutral mixture, and sweet spirit of nitre. At an early period the patient should resort to carriage riding. To abate

the *colliquative sweats*, the surface of the body should be sponged with a solution of alum in proof spirits, in the proportion of an ounce of the former, to a pint of the latter, with the internal use of elixir vitriol in sage tea.

Pleuritic symptoms are to be met by local bleeding, a blister, and subsequently a poultice of bran and flax seed, as advised by Broussais.

The gastric affections attendant on phthisis, are relieved by leeches, or an embrocation of equal parts of spirits of turpentine, sweet oil and laudanum.

"*Diarrhœa*, in whatever stage of phthisis it may occur, is most readily subdued by injections of morphia dissolved in gum water, flaxseed infusion, or some other bland mucilage. It is well, at the same time, to give occasional table-spoonful doses of simple camphor water, which conduces to the same end, and has also a slightly anodyne effect.

"I have also employed with signal benefit a mixture of camphor water, laudanum and nitric acid: and where other means have failed, very small doses of calomel, combined with ipecacuanha and opium, will be found effectual. The bark of the common dog-wood (cornus florida) made into a pretty strong infusion, constitutes a valuable auxiliary.

"I have also sometimes used the Moorish apozem mentioned by Dr. Good from M. Orban, consisting of a grain of alum with a grain and a half of sulphate of iron, morning and evening, which is a most effectual check on diarrhœa." pp. 126—27.

For constipation, bran bread with cream will generally be sufficient.

Our author's method of treating particular symptoms, is followed by a series of observations on various remedial measures.

Digitalis.—We concur with him as to the benefits, far short of a cure however, which this powerful medicine may be made to produce; but in the advanced stages of phthisis, it must be given with great caution, and always in connexion with some preparation of opium.

"*Iodine and its preparations.*—Every physician is now familiar with the internal use of iodine in phthisis; and having myself used it very extensively, I am able to express an unequivocal opinion respecting it. In a large number of instances it has appeared, especially in incipient consumption, to arrest or suspend the tubercular secretion,

and with it the hectic, marasmus, cough, dyspnœa, and other urgent symptoms. In administering it I have adopted the common formula, combining it with the hydriodate of potash; but I am cautious to discontinue it whenever it is followed by sick stomach, vertigo, or any of those symptoms usually called *nervous:* for, notwithstanding the assertion of Dr. Coindet, of Geneva, that he has never seen injury result from its use, several instances have occurred to me, in which the persistence in it would have certainly terminated in very unpleasant consequences.

"There are again some constitutions in which it does not appear to produce any obvious effects, either for better or worse; but in a majority of cases, even in the second stage of phthisis, I have been much gratified with the results. Thus it often relieves the dyspnœa, improves the complexion, and restores the appetite, even when the advanced progress of the disease precludes all hope of recovery. A lady has assured me that whenever her cough, dyspnœa and febrile sensations warn her of a fresh accession of disease, the use of the iodine at once dispels the symptoms, and restores her to usual health. In another marked case, that of a middle aged man, one of whose lungs has been in a state of abscess for eight months past, I have repeatedly rescued him from alarming relapses by the iodine mixture alone.

"In some instances it has so obviously improved the nutritive function, that patients have increased in flesh by its use, and at the same time recovered, in a considerable degree, a naturally florid complexion.

"I prescribe iodine at every period of phthisis, avoiding it only when there is much febrile excitement, or when it produces the objectionable consequences already mentioned: but its use should be governed by the adage, that 'there is nothing in our art that does good but may also do harm.'" pp. 130—31.

Of the *Prussic acid* Dr. M. says nothing new. He has used the *uva ursi*, as recommended by Dr. Bourne, of Oxford, Eng., with decided advantage; especially in the chronic catarrhs of aged people which simulate consumption. The *compound extract of sarsaparilla*, prepared in this city after the formula of Carpenter, he regards as a very valuable "alterative," having in some cases seen it "produce a renovation of health truly surprising." When consumption is obviously in connexion with a scrophulous diathesis, he gives the extract combined with hydriodate of iron. *Tonics* he thinks often admissible, and prefers the wild cherry tree bark, (*prunus virginiana*) and the serpentaria to all others. We have supposed that the former owes part of its efficacy, to the Prussic acid which it contains. *Narrotics* he would avoid, except when indispensable to suspend the cough and procure sleep.

"*Fumigation and inhalation.*—It is by these means only that substances can be applied directly to a diseased lung; and when we recollect that vapours are, by this process, freely received into all the air-passages and cells, and even into the abscesses, with which the bronchia almost invariably communicate, how important is it that we should avail ourselves of this adjuvant in the treatment of consumption!

"But the careless manner in which inhalation is usually regulated, has brought it greatly into disuse; and in truth, I have, from this cause, sometimes seen it do more injury than good.

"The common plan of burning tar, resin, myrrh, and other substances in the chambers of the sick, I have found to add to the distress of the patient, owing to the disengagement of an empyreumatic smoke.

"After a fair trial with various substances, there is no one which I have prescribed in this form with equal success to tar in combination with subcarbonate of potash, in the manner recommended by Sir Alexander Crichton.

"Thus an ounce of potash is added to every pound of tar, in order that the latter may be deprived of its pyroligneous acid. The two ingredients being well mixed, should be first boiled for a few minutes in the open air, in order to disengage any impurities, and then be kept at a simmer in the room of the patient. This is readily effected by putting the composition in an iron vessel, and placing the latter over a spirit lamp, or some analogous contrivance.

"In this way not only a chamber, but an entire house, is speedily pervaded with a most agreeable vapour, which, although it may excite some disposition to *cough*, both in healthy and sick persons, very soon, in a great majority of cases, allays this symptom, and with it a great proportion of the patient's distress. In truth, I have seen it act like a charm. The very first case in which I employed it, was that of a lady who had recently lost both a brother and a sister by consumption, who herself had a lung disorganized by tubercular disease, and a constitution that had already suffered greatly from this cause. From the day that she commenced the tar inhalation her cough almost entirely disappeared, and all her other symptoms became, and still continue, greatly alleviated, excepting the pleuritic pain between the shoulders. Unpromising as this case was for a first experiment, the result was so pleasing that I gladly extended the same means to other patients; and I can most strongly recommend it in tubercular consumption, as a palliative of its most harassing symptoms, and in the catarrhal and pneumonic forms of phthisis as a cure. But I agree with the author just quoted, that in any case where the skin is hot and dry, and the expectoration scanty, the tar vapour can scarcely be of service; and I am also free to acknowledge, that instances have occurred to me wherein the preceding symptoms were absent, and yet the vapour appeared to irritate, rather than tranquillize, the pulmonary organs. These exceptions, however, have been very few, and such as necessarily occur in any plan of treatment. In chronic catarrh, especially when attended with ulceration of the mucous membrane, (catarrhal consumption of the systems,) I know of no plan of treatment that can vie with this:

the same remark will apply to those morbid conditions left by pneumonia and pleurisy, especially when accompanied with purulent expectoration and dyspnœa." pp. 134—35.

After speaking of *setons*, *issues*, and the *tartar ointment* with approbation, our author observes—

"The time to interpose this class of remedies with effect, is in the onset of consumption, when a dry cough, burning of the hands and feet, pain and dispnœa, warn the patient of impending danger; and there is this additional advantage to be derived from issues, that they do not interfere with the employment of active exercise, or long journies. I have had patients who have kept their issues open while travelling hundreds of miles over rough roads, without experiencing from them any appreciable inconvenience." p. 138.

We have not room to say any thing on the subject of *diet and clothing*, and the observations of the author present nothing particularly new.

His remarks on *exercise* are substantially the same with those of Sydenham, reiterated by Rush, and lately insisted upon by Dr. Parrish, in a paper which we have already analyzed.

To the important subject of change of climate, our author has devoted a number of pages, but as we shall prepare a distinct article on that subject, for our next number, we shall not enter upon it now.

Dr. Morton's concluding observations, are chiefly on the possibility of a radical cure in tubercular consumption, which he thinks may sometimes take place from the *absorption* of the tuberculous matter. The following extract will present his views:

"It is altogether probable that tubercles are sometimes absorbed; nor is it improbable, although not wholly susceptible of proof, that many of the hectic fevers which are cured by change of climate, and other means, may have been cases of incipient tuberculous disease that have been removed by the timely interposition of art.

"Even where tubercular matter is not absolutely thus removed from the lungs, its progress may be, and often is, arrested and kept at bay, until the system recovers its wonted vigor, and the morbid matter ceases to irritate. I have now in my occasional charge, persons whose lungs have certainly been tuberculous for nine or ten years, and whose health is not sensibly more impaired than it was at the onset. I lately attended a man sixty-six years of age, who died of tuberculous abscesses in both lungs: he assured me that he had experienced marked

consumptive symptoms thirty years previous, and suffered particularly from profuse hæmoptysis, which, however, never recurred. His symptoms eventually assumed the acute character, and he was not confined to his bed more than three months.

"A forcible illustration of the arrest or absorption of tubercular matter, has been mentioned to me by a distinguished member of the profession, who, however, at the moment of communicating the facts, was unable to refer me to the work in which they are published: they are as follow:—While Louis Bonaparte was king of Holland, a division of the French army, five thousand strong, raised in the southern provinces of France, was marched into Holland and quartered there. Tubercular consumption, in an aggravated and acute form, soon made its appearance among these young men, and so great were its ravages that hundreds were soon destroyed by it. In this state of things, the physician in chief applied to the government to save the remains of the army, by sending them back to France; which was done accordingly, excepting in the case of those who were already too ill to remove from the hospitals. Among those who were able to return, were many already in the incipient stage of the disease, and whose symptoms were becoming daily worse; yet even these became convalescent on reaching the south of France, and no deaths by consumption occurred after the troops left Holland.

"These facts show, in a remarkable manner, the effects of climate in producing phthisis, as well as in arresting, if not eradicating it." pp. 161—62—63.

We have thus given a pretty full analysis of the work before us, especially its therapeutic department, presuming, in reference to the treatment, that Dr. Morton's industrious researches, bring down the discoveries of the profession to the present time. Our readers will unite with us in the regret, that he has not enabled us to present them with any remedies of greater novelty and promise, than those which have been enumerated.

We shall only add, that the plates attached to the work are well executed and instructive, and conclude by expressing the hope, that Dr. Morton will keep his attention directed upon this important subject.

Art. VII.—Sylva Americana.

The Sylva Americana, or a Description of the Forest Trees indigenous to the United States, practically and botanically considered; illustrated by more than 100 *engravings.* By D. J. Browne. Boston, Hyde & Co. pp. 408, octavo.

An esteemed, but unprofessional friend, who is deeply convinced that shade trees, might be made greatly to contribute to the health and comfort of cities, has presented us with an article on the subject, and desires it to be laid before the profession. As his views coincide with our own, we of course consider them correct, and have determined not merely to place them on our pages, but to make them an occasion for directing the attention of our brethren to the botany of their native trees.

The Valley of the Mississippi embraces the most extensive and lofty forest in the United States; which in its composition, offers a greater variety of trees than any other section of the Union. Many of them are important to the physician, as being capable of furnishing valuable medicines, which might be made substitutes for the *officinals* of foreign countries; a still greater number are of value to the artisan and agriculturalist; while the whole are interesting to the botanist and the lover of nature, as she presents herself attired in the splendors of the wilderness.

Living and moving beneath the shade of these noble productions, no physician should be ignorant of their names and relations; and we would fain point out to our compeers, especially those who practise in the country, how much they lose of amusement and instruction, in their long solitary rides, (uncheered perhaps by the prospect of any good fee,) from not contemplating the woods through which they pass, with the eye of a botanist, and the heart of a poet. A slight acquaintance with the elements of the science, and the possession of a few books of practical botany, would enable them, with very little labor, to become familiar with the names, arrangement, and habitudes, of all the forest trees, beneath which they

might wander, in the prosecution of their business; and thus supply them with objects for scientific remark, and much profitable reflection, on this beautiful department of organized nature, without, in any degree, diminishing their attention to the sick and the study of the profession, which should be regarded as paramount and sacred duties.

It has often struck us with some degree of astonishment, that any physician of this great valley can resist the temptation, to devote a portion of his leisure to the scientific study of its woods.

Even in winter, when leafless and shivering in the wind, they are interesting, as we then can compare the forms and mode of ramification of the different trees, both of which are the result of the manner in which the vegetative or organic energy exerts itself in the various species.

In early spring, they present still more of instruction, to him who watches the swelling bud, and observes the different influences, of the returning heat, upon different species;—some of which, like the *ulmus Americana* and the *acer rubra*, begin to expand in February, with their branches bending beneath the snow; while those of the *gymnocladus Canadensis*, hang back till the thermometer mounts up to 90° near the end of May. Curious, indeed, is this difference in the relation of the vegetative energy to caloric, in these neighboring productions of our soil. Then, again, it is interesting to notice the growth of the buds or trees of the *same* species, growing in different altitudes from the lower to the upper Mississippi, a kind of natural, more unerring in what it tells, than any artificial thermometer.

As the spring advances, the expansion of the leaves and flowers—the relative times of their appearance—and the changes of color which they undergo in opening, are new subjects of remark, and supply fresh materials for contemplation. This is the season of vegetable circulation. That of man is uninterrupted from birth to death; that of the tree revives in spring, after a long period of torpor, and then is the time for experiment and observation, on the flowing of the sap, and

a comparison of that function with the circulation of the blood, an appreciation of the forces which maintain it, and a recognition of its conversion into the various secretions, which give to trees their different sensible and medical qualities.

The arrival of the solstice brings new opportunities for observing the influence of heat and moisture or drought, on the vegetative functions, in the appearance which the leaves and young fruit of the same and of different species put on, in successive seasons. It furnishes opportunities, likewise, of studying the relations which exist between this portion of the vegetable kingdom, and the great class of insects, so many of which subsist on the leaves, or deposit their ova beneath the bark of our trees. Finally, it still further discloses to us a repulsive power to the electirc fluid, in certain trees, as the beech, for instance, giving occasion, after the thunder storms which so often sweep over the woods, to observe what other species are capable of defending themselves against its lightnings.

Next comes autumn, with a wand of natural magic, transforming the forest robe of green into a hundred teints, and displaying to the eye of taste, a drapery of indescribable beauty. The approach and consummation of this change, from spring and summer verdure, to the inimitable shades of russet, yellow, orange and crimson, which the leaves put on, in the days which precede their fall, afford matter of observation and experiment, beyond what those who have not attentively surveyed the phenomenon might suppose. The influence of certain states of weather in preventing the developement of these beautiful natural dyes, and the relations which they bear to the qualities of the sap of different trees, have not, been fully revealed, and might be made the subject of a curious physiological inquiry.

Thus throughout the year, our forest presents, in every season, a new aspect and a new study, to him who can be charmed by nature in one of her most striking exhibitions of mutation; and, as these external displays arise from internal changes, the problems of vegetable physiology which they present,

are highly curious, and peculiarly adapted to those who live *in sylvis*, where these beautiful phenomena of organic life, are incessantly passing before their eyes.

Nearly a hundred pages of the first part of the book before us, are devoted to the physiology of trees; but it is not our design at present to go into this subject, and if it were, this is not the book we should select for a text, as it is the work of a compiler, and designed for the general reader, rather than the philosopher. We shall, however, diversify, this *ad captandum* article, with one or two extracts, beginning with a brief account of the *root*.

"The root, which, though often differing in its bulk and shape, is similar in all its structure and use, (with the exception of the bulb, which, from containing the rudiments of a new individual, may more properly be considered a variety of the seed,) is that part of the vegetable which fixes the plant to the ground, is its organ of nourishment, and the apparatus by which, through its various ramifications, below the surface, it imbibes food from the soil.

"In its structure, it is composed of the same parts as the stem and branches, and therefore may only be considered as the stem inverted; the lower portion of the tube dipping into the earth, and forming itself into minute ramifications without leaves; and the upper portion ascending, and producing buds, branches and leaves. This has been illustrated by experiments made upon the plum, cherry and willow, in which, by inverting the stem and the root, the former has become a root, sending out ramifications, and the latter a stem producing leaves, flowers and fruit. The structure of the root and stem is therefore one and the same thing, and it is the situation in which each is placed, and the operation of the surrounding medium, that makes the difference; giving to each, a variation in its chemical and medicinal properties, though their physical structure continue the same.

"The main body of the root, which has been termed *the caudex*, upon its first penetrating the ground, possesses but very limited powers of affording nourishment; and it is not until it has sent forth its ramifications or *radiculæ*, and these ramifications have issued still finer filaments of capillary diameter, that an extensive absorption can be effected. These minute tubes, by dipping into the soil in the direction where there is the least opposition, abstract from it, by some undiscovered process, those nutritive parts, which, through the agency of water, become sap, and convey it to the caudex, from whence it rapidly ascends to the stem and branches, and thence to the uttermost extremity of the leaves, there to undergo a new modification to be hereafter explained. The root, therefore, may be considered as acting the same part towards the vegetable, as the stomach does to the

animal; though the apparatus and the fluid prepared, bear but little similarity." pp. 13—14.

Our limits do not admit of our going at this time into the inquiry how the sap finds its way from the earth into the vascular system of the root, a subject which the experiments and researches of Dutrochet have contributed to elucidate. The following extract on its circulation through the plant, will not be without interest to such of our readers as have not had the means of full information on that subject.

"Much contrariety of opinion has existed among physiologists concerning the vascular system of plants, and the nature of the propulsion of the sap through their stems and branches. Indeed it is a subject upon which very erroneous ideas have prevailed.

"That the whole vegetable body is an assemblage of tubes and vessels, is evident to the most careless observer; and those who are conversant with the microscope, and books relating to it, have frequent opportunities of observing how curiously these vessels are arranged, and how different species of plants, especially trees, differ from each other in the structure and disposition of them. Such observations, however, if pursued no further, lead but a little way towards a knowledge of the wonderful physiology of vegetables.

"That plants contain various substances, as sugar, gum, acids, odoriferous fluids and others, to which their various flavors and qualities are owing, is familiar to every one; and a little reflection will satisfy, that such substances must each be lodged in proper cells or vessels, to be kept distinct from each other. They are extracted, or secreted from the common juice of the plant, and called its peculiar or secreted fluids. Various experiments and observations prove also, that air exists in the vegetable body, and must likewise be contained in appropriate vessels. Besides these, we know that plants are nourished and invigorated by the agency of water, which they readily absorb, and which is quickly conveyed through their stalks and leaves, no doubt by tubes or vessels on purpose. Finally, it is observable that all plants, as far as any experiment has been made, contain a common fluid, which at certain seasons of the year is to be obtained in great quantity, as from the vine branches by wounding them in the spring before the leaves appear, and this is properly called the sap, by which the whole body of the plant is nourished, and from which the peculiar secretions are made.

"In a young branch of a tree or shrub, or in the stem of an herbaceous plant, are found, ranged round the centre or pith, a number of longitudinal tubes or vessels, called by Mr. Knight central vessels, of a much more firm texture than the adjacent parts, and when examined minutely, these vessels often appear to be constructed with a spiral coat. This may be seen in the young twigs and leaf stalks of the elder, lilac, and many other shrubs, as well as in numerous herbace-

ous plants, as the peony, and more especially many of the lily tribe. If a branch or stalk of any of these plants be partly cut through or gently broken, and its divided portions slowly drawn asunder, the spiral coats of their vessels will unroll, exhibiting a curious spectacle even to the naked eye. In other cases, though the spiral structure exists, its convolutions are scarcely separable at all, or so intermediate as to be only marked by an interrupted line of perforations or slits, as shown by M. Mirbel. Indeed, the very same branches which exhibit these spiral vessels when young, show no signs of them at a more advanced period of growth, when their parts are become more woody, firm and rigid. No such spiral-coated vessels have been detected in the bark at any period of its growth.

"Besides the central vessels, Mr. Knight has described another set that traverse the alburnum, whence they are distinguished by the name of alburnous tubes. Through them the sap also ascends; for the destruction of a circle of bark does not prevent the formation of buds and leaves; 'but,' says Mr. Knight, 'the alburnous vessels appear to be also capable of an inverted action, when it becomes necessary to preserve the existence of the plant.' The cortical vessels of Mr. Knight, which can hardly be considered the same with the *vasa reducentia* of Willdenow, (although they are said to perform the same function,) exist in the bark, and serve to reconvey the circulating sap to the root. It is suspected, that there may be two sets of these vessels, one which nourishes the bark, and another that secretes particular fluids in the bark. Lymphatic vessels have also been described; but we have met with no satisfactory account of them.

"The functions of the vessels of plants have been as variously described as the organs themselves. Malpighi supposed them to be air vessels; Grew declares, that they sometimes contained moisture; and Du Hamel suspected that they contained 'highly rarified sap.' The experiments of Darwin and Knight have, to a certain degree, determined their uses. The former placed twigs of the common fig tree into a decoction of madder, and on taking them out after some hours' emersion and cutting them across, the colored fluid was found to have ascended into each branch, and the cut ends of the vessels formed a circle of red dots around the pith, and these vessels again were surrounded by other vessels containing the milky juice, so very remarkable in the fig tree. The latter (Mr. Knight) made similar experiments with cuttings of the horse chesnut and of the apple tree, with an infusion in water of very black grapes. The result corresponded with those of Darwin. He, however, pursued the investigation still further, and traced the fluid into the leaves; and during the whole course, it did not give the slightest tinge to the bark, nor to the sap between it and the wood. The pith was very slightly, if at all affected. The radicles are probably elongations of these vessels which absorb the proper fluids from the earth, and convey it into the body of the root, where it becomes sap by some process which we cannot develop; it is then conveyed to the stem and leaves, where certain other changes take place, that are to be hereafter noticed. The functions

of the alburnous vessels appear to be two-fold, according to the views of Mr. Knight. At one period, they convey sap to the leaves in common with the central vessels: and during the winter, they serve as reservoirs of the juices of the plant, which, after having undergone certain changes in the leaves, are there deposited until the approach of spring, when they contribute to the formation of those new parts which are necessary for the vital action of the vegetable.

"The cortical vessels seem to carry the sap back to the roots through the bark, and, in its course, it possibly forms alburnum, or at least furnishes the materials. All this, however, is a mere probability, as we know very little with certainty connected with it.

"The ascent of the sap varies according to the season of the year, and the state and temperature of the atmosphere; being suspended during the winter, and most active in the spring, when vegetation recommences, and previously to the full expansion of the leaf; that at the vernal season, Dr. Hales has ascertained by experiments on the vine, in the heat of the day it will rise in glass tubes adjusted for the purpose, at the rate of an inch in three minutes, and attain in these tubes the height of more than twenty feet; and that, by its force upwards, it will sustain a column of mercury, of thirty-eight inches, equivalent to the pressure of a column of water of more than forty-three feet; which force, he says is, 'five times greater than that of the blood in the crural artery of a horse, seven times greater than that of a dog, and eight times greater than the blood's force of the same artery in a fallow deer.

"It is difficult to determine by what means the sap is propelled through the vessels: the agitation of the winds, the form of the vessels, the action of the heat, the pressure of certain plates, called silver grain, in the oak, are all supposed to contribute to this end; and very possibly they do this to a certain extent. We confess, however, that they do not appear to our minds adequate causes. It is a matter of some moment to ascertain how the function is performed; but our knowledge of facts is so very imperfect, that it is impossible to frame any reasonable hypothesis on the subject. In this, as in every other department of physics, men are too prone to step beyond the limits within which their actual knowledge should confine them." pp. 27—28—29—30.

In glancing over the descriptive pages of the book before us, we find that they are substantially little else than, a translation of the *History of North American Forest Trees* of Michaux, a work embellished with beautiful plates, and colored to nature—almost the whole being the result of his personal researches in various parts of the Union, nearly forty years ago. In reading several articles on the SYLVA of the western states, little known at the time they were explored by Michaux, and, apparently, not visited since by our author, we observe a

number of mistakes and omissions, which it should be the business of our western botanists to correct and supply. As a specimen of this portion of the work, we shall extract a part of the article *Cornus Florida*, or Dogwood, as not only being one of our most interesting medicinal trees, but that which furnishes the *vignette* of our *Back Woods' Quarterly*.

"The wood is hard, compact, heavy and fine-grained, and is susceptible of a brilliant polish. The sap is perfectly white, and the heart is of a chocolate color. This tree is not large enough for works which require pieces of considerable volume: it is used for the handles of light tools, such as mallets, small vices, &c. It is employed by engravers for cuts used in printing. Some farmers select it for harrow teeth, for the hames of horses' collars, and also for lining the runners of sledges; but to whatever purpose it is applied, being liable to split, it should never be wrought till it is perfectly seasoned. The shoots when three or four years old, are found proper for the light hoops of small, portable casks. In the middle states, the cogs of mill wheels are made of dogwood. Such are the profitable uses of this tree; it affords also excellent fuel, but it is too small to be brought into the markets of the cities. The liber of this wood is extremely bitter, and proves an excellent remedy in intermitting fevers. The bark of this wood has a close analogy to the Peruvian bark, and has proved, in many cases, to be capable of supplying its place with success. We are told of a respectable physician of Pennsylvania, who, during twenty years, had constantly employed it, and who estimated 35 grains of it to be equivalent to 30 grains of the Peruvian bark. The only inconvenience accompanying its use was that, if taken within a year after being stripped from the tree, it sometimes occasions acute pains in the bowels: but this evil was remedied by adding to it 5 grains of Virginia snake root, *Aristolochia serpentaria*. The bark may be substituted for gall nuts, of which an excellent ink may be made by putting one-half of an ounce of it with 2 scruples of sulphate of iron, 2 scruples of gum arabic, and 16 ounces of rain water. By shaking the infusion well together it will be fit for use in a few days." pp. 142—43.

The third and last part of Mr. Browne's work consists of instructions for the culture of forest trees, which extend through nearly a hundred pages. They are minute, and appear to be judicious. In the eastern states, these directions are more important than in the western, where the destruction—not the reproduction of trees, is the *desideratum*. This, however, is only true of the more recently settled parts, for in many portions of Kentucky, Tennessee and Ohio, the waste of forest trees has been so unrelenting, that already the children of the

first settlers begin to feel the want of them. It is time that every man of taste and science, began to raise his voice against a practice, which goes to deprive our country of its most grand and beautiful natural ornaments, augments the heat of its surface, diminishes the quantity of rain, promotes evaporation, and exposes both man and beast, to the fierceness of a burning sun, the moment they go abroad in summer. There is reason, moreover, to believe, that the leaves of trees exert a corrective influence on the atmosphere when vitiated, with certain noxious gases; and although this may be matter of uncertainty, it is obviously better to act on this theory, than to violate it, especially when the violation is attended with many palpable disadvantages of a different kind. But we must come to the article of our correspondent.

To the Editor of the Western Journal of the Medical and Physical Sciences.

Sir,—If in your hygienic suggestions to the public, you can recommend, professionally, the introduction of shade trees into our cities and villages, the following rules for transplanting, may not be out of place in your valuable Journal.

There are many reasons in favor of the general introduction of shade trees into our towns, but in this age of "hot-haste" in the pursuit of wealth, they do not seem sufficiently powerful to win the attention of the great mass. The embellishment which shade trees impart to towns and villages, the comforts which they confer, and the kindly influences which they exercise over the moral feelings, are among the reasons which might be urged in their favor. He who has visited New Haven, and some other of the beautiful New England villages, will at once appreciate the force of the first of these reasons: he who has wandered from the hot pavements of a city, to the cool shade of the woods, with the mercury ranging from 90 to 100°, cannot, even amid the frosts of October, be

unmindful of the second; he who in midsummer, passes from the vexatious marts of traffic, to the bosom of his family grouped beneath the green foliage of the trees that overshadow his dwelling, is no stranger to the tranquillizing and purifying influences which these noble productions of nature shed upon his heart. Strong, however, as are these inducements for the cultivation of trees, they do not, here in the West, where we wage the same war of extermination upon them that we do upon the aborigines, move us to action. Now, Mr. Editor, if you could conscientiously promise us a diminution of cholera and fever, from the introduction of shade trees, it would undoubtedly promote the good cause of arboric culture. And under the belief that hygiene that will warrant such a recommendation, and that your medical brethren throughout the Valley of the Mississippi, may exert their influence in aid of the work which I am advocating, the following rules, for the successful transplanting of trees, have been collated from the ablest writers upon the subject.

1. Care should be taken in transplanting, to select those trees which have been most exposed to the elements, and conquently possess the greatest thickness and induration of bark.

2. The soil into which trees are transplanted, should be similar to but of a *better* quality, than that from which they are taken.

3. The soundness of the stem and the number and healthy condition of the roots, fibres, and rootlets, must not be overlooked.

4. Such trees should be selected as possess thrifty, and well balanced branches.

5. The practice of lopping off the branches is injudicious. When the top is too large for the roots, it should be reduced by cutting off some of the branches close to the stem.

6. The greater the amount of roots and branches retained, the better.

7. The pits in which the trees are placed, should be so large as to receive the roots in their natural position.

8. The tree should be firmly secured in its new position.

9. The best periods for transplanting in this country, are the months of October and November, March and April.

10. By an observance of the foregoing rules, trees of almost any dimensions and of every variety, may be successfully removed.

Here in the West, experience has shown that too much reliance has been placed upon the flowering locust. When in bloom it is a beautiful tree, but it affords less shade than many others, is easily broken down by the wind, and is often destroyed by insects. It is believed that not more than one-fifth of the locust trees transplanted in our city within the last ten years are now living. Our forests present a number, with superior claims to the locust. Among these may be enumerated the elm, the sugar maple, the sycamore, the buckeye, the black walnut, catalpa, and water maple. The dog-wood and red bud might be added by way of variety, in gardens and public promenades. These are all indigenous. The weeping willow, the white mulberry, and the lombardy poplar, are each handsome, and may claim, although exotics, a place among our native shade trees.

A Backwoodsman.

MISCELLANEOUS INTELLIGENCE.

ANALECTIC, ANALYTICAL, AND ORIGINAL.

I. Analectic.

Ad Sylvas Nuncius.

1. ***Sympathy between the Uterus and Mammæ.***—The ***London Medical Gazette***, for March last, contains some observations by Dr. Rigby, on this subject, which are peculiarly interesting, from the practical advantage to be derived from the play of this sympathy in the suppression of uterine hæmorrhage. There is, perhaps, remarks Dr. R. "nothing more interesting, or more worthy the attention of an accoucheur, than the various sympathies which show themselves between the uterus and other parts of the system. The morning sickness of early pregnancy; the convulsions in the latter months, or during labor; the violent rigors when the os uteri becomes fully dilated, or immediately after the birth of the child; the contraction of the uterus when the face is sprinkled with cold water, or after a draught of any cold fluid; are some of the most remarkable, among a considerable number, which occur before and during labor.

"The connexion, in the unimpregnated state, between the uterus and stomach, is well displayed by the gastric derangement which frequently accompanies prolapsus uteri, and *vice versâ*. The pain and swelling of the mammary gland, from menstrual irritation, or where there is subacute or chronic inflammation, or organic disease of the uterus, in like manner demonstrate the link between this organ and the breast. But the most striking instance of sympathy which I have remarked between these two organs, is the sudden and powerful contraction which is excited in the uterus, when in a state of inertia, by applying the child to the breast.

"My attention was first drawn to this subject, by an observation which I met with some years ago, in Carus's *Gynakologie*, recommending the application of the child to the breast, to promote expulsion of the placenta, where it was slow in coming away; but I was far from being aware of the extent to which this sympathy really existed. In cases where there has been considerable disposition to

hæmorrhage, after labor, from noncontracted uterus, and where I have been afraid to leave the patient, lest flooding should come on in my absence, I have been for the last two years, in the habit of ordering the child to be put to the breast, as soon as her clothes, &c. were changed, and herself comfortably settled in bed; feeling that I thus diminished the chances there might be of any hæmorrhage occurring. It was not however till last year, that I began to see the practical importance of this sympathetic connexion, between the breast and uterus, in its full extent. Having had two or three cases of severe hæmorrhage after labor, from uterine inertia, which had to a degree resisted all the common modes of treatment, and where permanent contraction could not be induced, even by repeated injections of cold water and vinegar into the vagina; I determined to see what effect the application of the child to the breast would have upon the relaxed uterus, and was agreeably surprised to find the observation of Professor Carus confirmed in its fullest extent; firm and permanent contraction having been immediately produced, in every case."

"When I first began," Dr. R. adds, "to use this plan of treatment, in cases of inertia uteri after delivery, I was frequently startled by finding a sudden gush of blood, accompanied by a forcible discharge of coagula, follow almost instantly the application of the child; but soon satisfied myself, that so far from being a return of the flooding, it was merely the result of the uterus contracting firmly and expelling its contents.

"It is a common saying among nurses, that 'the child brings after pains;' that is, when the child is first applied to the breast, on the second or third day, as was formerly the custom, it was frequently followed by pretty smart after pains, which evidently resulted from the uterus being excited to contract, and expel any coagula of blood, which might be lodging in its cavity or sinuses. Hence, besides its beneficial effects, in preventing any danger from hæmorrhage, the application of the child to the breast, is a valuable means of preventing much of that uterine pain and irritation, which is apt to result from the presence of coagula, &c. in the womb, after labor.—*Am. Jour. Med. Sciences.*

2. *Memoir upon the Structure of the Lymphatic Vessels. Read at the Medical Society of Emulation, of Paris, at its meeting on the 2d of October*, 1833. By Professor Mojon.—Dr. M. former Professor of Anatomy and Physiology, at the Royal University of Genoa, has lately made some new observations upon the structure of the lymphatic vessels, which appear to be well worthy of the interest of physiologists. Having placed the lymphatic vessels upon a glass plate, and opened them through their entire length, Dr. M. has recognised, by the aid of the microscope, that which anatomists regard as valves or folds of their internal membrane, are in fact true sphincters. These sphincters are formed by circular fibres, which, diminishing at different points the calibre of the lymphatic tube, give rise to those nudosities which are remarked at their exterior. The contractions

are still more visible when the lymphatics are injected with some liquid. They may also be observed very distinctly when this system is in an almost varicose state, as in subjects who have died with anasarca.

If the two ends of a varicose lymphatic, be drawn in a contrary direction, these external nudosities disappear entirely, as well as the pretended internal valves.

Professor Mojon has observed, besides, that the fibrous membrane of the lymphatics, of which Mascagni has spoken with sufficient exactness, has longitudinal filaments from one contraction to another, much more numerous than the oblique. This crossing of the fibres forms a tissue, like a kind of lattice.

The longitudinal fibres have their two ends attached to the transverse, which constitute, according to the views of the Genoese anatomist, the sphincters or contractors of the lymphatics. Thus the longitudinal fibres in contracting, draw one sphincter nearer to another, whilst the oblique fibres diminish the diameter. All these fibres, taking their point of support upon the circular fibres, dilate the superior sphincters, by drawing the circumference downwards. By means of this physico vital mechanism, the fluid which penetrates a lymphatic, irritates the portion of the vessel which it fills, which contracting upon itself, diminishes its cavity, and the fluid there contained is obliged to advance by thus successively traversing the open sphincter. This peristaltic motion is performed in the same manner as that of the intestines. This vermicular movement may be observed very distinctly in the lacteal vessels of the mesentery of animals, which are opened two or three hours after they have been well fed.

By admitting this organization of the lymphatics, the retrograde movement of the fluids contained in the absorbent system, admitted by Darwin and others, may be explained, which would be incompatible with a valvular apparatus.

If this system of vessels were valvular, why, says Dr. Mojon, when a lymphatic is opened in its whole length, does it never present but two parallel crescents, from one space to another, one to the right, the other to the left, and never one and two halves? That, indeed, would happen often, if these crescents were true valves, like those of the veins.

The difficulty which is often met with in attempting to inject the lymphatic vessels in a contrary direction to the fluid which passes through them, is owing to this; that the little pouches formed by the sphincters, and the relaxation of their parietes in filling them with the injecting matter, inflate them, and by that means close the opening of the lymphatic.

The observation several times repeated, that the different colored fluids with which the lymphatic vessels are injected, never spread themselves either in the cellular tissue, or in the parenchyma of the viscera, unless by some laceration, induced M. Mojon to believe that these vessels had no patulous orifice, and that they took their origin from a cellular filament, which progressively became a villosity, an

areolar spongiole, a capillary, and at length a lymphatic trunk. He also believes, that the absorbent action of this system of vessels, is performed by a kind of imbibition, through the porosity of their most delicate branches, like a sponge.

When once the liquid has penetrated by this kind of endosmose into the cavity of the smallest branches of the lymphatics, it advances into the larger trunks, by a progressive and continued peristaltic motion, up to the absorbent system.

Several French anatomists have lately repeated these experiments; they have obtained the same results.—*Journal de la Societe des Sciences Physiques et Chemiques, Nov.* 1833.—*Am. J. Med. Sciences.*

3. *On the Pathology of Typhus Fever.* By Professor Bouillaud.—It results, says M. Bouillaud, from the thirty-six cases of typhoid entero-mesenteritis, which were lately treated in the wards of the La Charité, that the inflammatory affection of the lower part of the small intestines, and especially of the clusters of the glandulæ Peyeri, constitutes really and truly the fundamental and essential element of the disease. In every instance, from the very commencement of the morbid phenomena, the local symptoms have clearly indicated the existence of such a phlegmasia; and the typhoid state has been developed under the influence of the entero-mesenteritis, in the same manner as we see it supervene in certain cases of severe phlegmonous erysipelas, of phlebitis, &c. It would not be more reasonable to consider inflammation of the intestinal follicles and of the mesenteric glands, as a simple consecutive effect of the typhoid state, than it would be to regard a phlegmonous erysipelas, in the course of which typhoid symptoms were developed, as the result of these very symptoms. Such a doctrine would be, in truth, a "contre-sens," pathogenesis. We do not indeed deny, that erysipelas may occur in subjects already laboring under typhus fever; all that we contend for is, that the obverse case, viz. where the erysipelas is formed before the explosion of the typhoid symptoms, is by no means uncommon; and the scope of our reasoning is obvious, when we assert, that the entero-mesenteric phlegmasia is of an erysipelatous character. To those who gainsay our doctrines, we confidently challenge them to adduce a single well recorded and well authenticated case of acute inflammation of Peyer's, and of the mesenteric glands, which did not exhibit, in its march and in its symptoms, local as well as constitutional, a most close analogy, if not a complete identity, with that disease, which has been most unfortunately designated by the appellations of fever, typhoid affection, &c. If it be true, as the Father of Medicine has predicated, that "naturam morborum ostendit curatio," another very potent argument may be adduced in favor of our pathological tenets, from the success of the remedial measures we adopt. These are eminently antiphlogistic. It may be said that some of the means, as the quinine and the chlorurets, (which were used in a few of the cases in the hospital,) are very far from being so; but who does not perceive, that at the period when we had recourse to these, the inflammatory af-

fection had assumed what the ancients denominated a malignant, or rather a putrid character, and therefore required for its arrest the intervention of certain measures, superadded to those of a strictly antiphlogistic tendency? In the period of the malady to which we are referring at present, there is indubitably a focus of putrid decomposition, which reacting on the whole economy, induces great and important changes in the mass of the blood and other fluids, and to counteract the effects of which, a new and paramount indication arises—an indication which is best fulfilled by the use of the chlorurets, both externally and internally, and of certain tonics, especially quinine.

How agreeable it is to find out that the doctrines which we have taught and inculcated for so many years, are in accordance with the experience of some of the greatest men who have gone before us. The illustrious Sydenham, whose authority is so often misapplied and abused in the present day, has admirably pointed out the relations between the phenomena of malignancy or putridity, and certain sorts or shades of inflammatory action:—"Cujus de malignitate opinionis inventio, humano generi longe ipsa pyrri-pulveris inventione lætalior fuit. Cum enim hæ febres præsertim malignæ dicantur, in quibus intensioris præ cæteris inflammationis gradus conspicitur." The following case will illustrate my treatment of typhus gravior.

A man was brought to the hospital, in the second week of typhus fever, and of such an aggravated character were all the symptoms, that we quite despaired of saving him. The prostration was extreme —the tongue, lips, and teeth, covered with a black crust—breath very fetid—respiration exceedingly feeble—pulse minute, and very rapid —abdomen distended—slight diarrhœa—surface of the belly and chest exhibited several reddish patches and papulæ, (eruption typhoide.) The state of this patient positively forbad the employment of any depletory measures, and the only judicious indication seemed to be, to obviate the putrid symptoms by the use of the chlorurets in drinks, baths, and enemas. In three or four days there was a sensible amendment; a blister was applied on the calf of each leg, and ten grains of the sulphate of quinine sprinkled every day on the excoriated surfaces. The diet was gradually rendered more nourishing, and consisted of broths, soups, fruits, and weak wine and water. This patient ultimately recovered.

Let the preceding case satisfy my opponents, that the same treatment is not uniformly, and to the same extent, followed, in my treatment of fever, without regard to the character of the symptoms, or to the constitution of the patient. By a judicious combination of antiphlogistic and antiseptic remedies, thirty-three cases, out of thirty-six, admitted into our wards, were saved. Such success could not rationally be expected to result from a therapeutics, which inculcated the use of stimulants, purgatives, and emetics. At the commencement, indeed, of the malady, a purgative or an emetic may be administered with advantage; but if they be of drastic severity, or are frequently repeated, the enteritic evil must necessarily be much aggravated.—

What confirms me in this opinion is, that I know that M. Trousseau has lately abandoned the practice of giving frequent doses of Glauber's salt, in dothinenteritis, [the entero-mesenteritis typhoide,] as recommended by his master, M. Bretonneau. At present he appears to be satisfied with the "medicine expectante;" for he gives nothing else but the white oxyde of antimony, a substance very nearly quite inert; and yet he assures us, that his success of late has been very great in the treatment of cases of genuine typhus. No doubt much good may arise from merely abstaining from every thing positively injurious, and from not interfering with nature's own operations; but we think that even the late M. Dance, who was very sceptical as to the advantages of the common practice in fevers, could not have withstood such practical evidence as we have adduced in favor of the plan which was followed in the thirty-six cases, of which no fewer than thirty-three recovered.—*Jour. Hebdomadaire.—Am. J. Med. Sciences.*

4. M. Bouillaud *on Follicular Enteritis.*—The term "follicular enteritis," is to be preferred to the one formerly in use, "gastro-enteritis," on account of its more accurately indicating the nature of the existing lesion; for in many cases there is no inflammation of the stomach, the disease being limited to the mucous membrane, and especially the follicular apparatus of the small intestines; and besides, we see every day, examples of genuine gastro-enteritis, unaccompanied with the symptoms of typhus fever. M. Bretonneau has lately introduced the term "dothinenteritis," or furuncular enteritis; and, although we cannot with strict propriety, admit the furuncular character of the disease of the intestinal glands, the term is not a bad one. Follicular enteritis has the same meaning, and is more simple in its enunciation. The bizarre appellation of "ileo-dicliditis," in allusion to the seat of the disease in the ileum and ileocœcal valve, does not at all express the nature of the diseased change, but rather its mere habitat. M. Bouillaud is in the habit of employing the terms of adynamic or putrid entero-mesenteritis, and in order to localize the chief seat of the morbid change, adds occasionally a special, instead of the general prefix, thus, adynamic ileo-mesenteritis, &c.

Eighteen cases occurred in the service of M. B. at the La Charité, during the summer months, and of these, fifteen took place in men, and the remaining three in women. This striking difference is, no doubt, attributable to the more debauched and irregular lives of the former, and also to the circumstance of far more men coming to Paris, from the country or elsewhere, for subsistence; for indeed the greater number of the cases we see here, are in those who have resided but a short time in the city. Out of our eighteen patients, eleven had been only four months in Paris—four from six to twelve months—one fifteen and another twenty months resident there. They were all under twenty-eight years of age. The season of the year, viz. during the months of June, July, and August, is that when the follicular enteritis is usually most frequently seen. It is always a difficult, and often an impossible thing, to trace the exciting cause of fever, to any

one specific agent or influence; and we shall be generally correct, if we enumerate, not one, but several, such as recent arrival from the country, laborious and excessive work, unwholesome and acrid food, debauchery, exposure to the inclemencies of the weather, depression of spirits, &c.

The premonitory symptoms are, a greater or less prostration, general uneasiness, anxiety, want of appetite, feeling of coldness over the surface, thirst, headache, and in many cases, some degree of purging and nausea, or even vomiting. The headache becomes more and more severe, accompanied with noises in the ears, appearance of flashes of light before the eyes, vertigo, stupor, so that questions are answered slowly and with reluctance, and in many cases with delirium. The features are void of animation, except when inflamed during the delirious paroxysm; the eyes become considerably sunk, the nose is sharpened, and the lips are black, and coated with dark crust. The skin is always hot and dry—the gentlest perspiration is ever a most favorable symptom; for, in all the worst cases, there is a constant aridity of the surface, and only towards the latter stage is it bedewed with an offensive sickening moisture. In some cases, there is an eruption on different parts of the body; this may be either papular, exanthematic, or pustular. A very characteristic symptom of this fever, when severe, is the position or decubitus of the patient in bed—he lies in one attitude, seemingly unconscious of all around him, and if he moves, it is rather like the rolling of a senseless mass than the voluntary act of an animate being. Complete coma, convulsions, twitching of the tendons, &c. are always very unfavorable signs.—The tongue is generally smooth, dry, and red at the point and along the edges, in the early stage; a filthy, yellow colored, cheesy looking crust covers it; and in the more severe cases, so completely parched is it, that it has the appearance of having been broiled. The lips, teeth, and mouth, are invested with a filthy brown or black sordes, and the breath is offensively disgusting. The thirst is always great—sometimes excessive. The gastric irritation is by no means observed in most cases; thus, in our eighteen patients, six only experienced vomitings; and except in one case, there was not any tenderness of the epigastric region when pressed upon. Pressure on the abdomen, especially over the cœcum and ascending colon, produced pain in ten cases. In fourteen there was well marked meteorism, or inflation of the bowels; and the degree of this symptom was usually proportionate to the severity of the case. The involuntary discharge of the urine, especially if this be muddy, ammoniacal, and fetid, always prognosticates great danger. The almost uniform coexistence of pulmonary disease, deserves our serious notice; in fifteen of our cases there was acute bronchitis, indicated by a dry sibilant, or mucous sibilant râle; in two, severe cynanche existed, and in one a double pneumonia, which caused the death of the patient. The biliary apparatus was not much affected in the majority of the cases. Four of the patients died, and the following are the most striking necroscopic appearances found.

Serosity under the membranes of the brain; substance of the brain

more highly injected than usual; consistence nearly normal. The stomach, in all cases, presented at one or more points, arborizations of minute vascularity; the texture of the mucous lining was generally softened, and thinner than in health. The duodenum was but little affected. On examining the ileum, there were found, sometimes even from its very commencement, patches of distinct eruption, or of an intense vascularity, with intermediate portions of healthy surface; but these phenomena were always more distinct as we approached its lower or cœcal extremity; at first, or highest up, the glandulæ Peyeri and aggregated follicles were merely swollen and enlarged; then here and there they were found to be ulcerated, the little ulcers having thickened edges, and the subjacent cellular tissue being denuded; as we proceeded lower down, the glandulæ Peyeri became more developed, and around them, the single or isolated follicles were converted into aphtous like ulcerations, with red, and even bloody borders; towards the extremity of the ileum, the gut was found to be actually riddled with these ulcerations, which were surrounded with the soft, pulpy, and inflamed mucous membrane. In one case, the surface of the ileo-cœcal valve, and also of the cœcum, exhibited these last described appearances. The mesenteric glands, adjoining to the diseased portions of intestine, were red, hypertrophied, and softened. Most of the other viscera, as the liver, spleen, heart, &c. presented more or less ramollissement of texture, so that they were easily crushed between the fingers.

As to the *treatment*, it was in all cases of an antiphlogistic tendency —moderate, but not repeated venesection; the application of leeches upon the epigastric and cœcal regions, (the *average* number required for each patient was between sixty and seventy in all, or about sixteen at four different times;) in four cases, cupping was employed to subdue the bronchitic affection. In nine of the cases, blisters were used, sometimes to the thighs, at other times to the calves of the legs. In ten cases, the solutions of the chlorides, (which were first recommended in 1826, by M. Bouillaud, as valuable remedies against the intestinal disease, and the consecutive alteration of the mass of blood,) were employed, either by the mouth, or in injections, or lastly, mixed with poultices, and applied to the abdomen. The bed clothes also, of the patients, were freely sprinkled with them.—*Med. Chirurg. Rev. and Journal Hebdomadaire.—Am. Jour. Med. Sciences.*

5. *On Chronic Gastritis.* [Extracted from Dr. STOKES' Clinical Lectures.]—Chronic gastritis is an extremely interesting disease, whether we look upon it with reference to its importance, its frequency, or its Protean character. It is commonly called dyspepsia, and this term, loose and unlimited in its acceptation, often proves a stumbling block to the student in medicine. Dyspepsia, you know, means difficult digestion, a circumstance which may depend on many causes, but perhaps on none more frequently than upon chronic gastritis. In the great majority of dyspeptic cases, the exciting cause has been over stimulation of the stomach, either from constant excess in strong,

highly seasoned meats, or indulging in the use of exciting liquors.—Persons who feed grossly and drink deeply, are generally the subjects of dyspepsia; by constantly stimulating the stomach, they produce an inflammatory condition of that organ. Long continued functional lesion will eventually produce more or less organic disease; and you will find, that in most cases of old dyspepsia there is more or less gastritis. But let us go further, and inquire whether those views are borne out by the ordinary treatment of dyspeptic cases. When you open a book on the practice of physic, and turn to the article dyspepsia, one of the first things which strike you, is the vast number of cures for indigestion. The more incurable a disease is, and the less we know of its treatment, the more numerous is the list of remedies, and the more empirical is its treatment. Now, the circumstance of having a great variety of "*cures*" for a disease, is a strong proof, either that there is no real remedy for it, or that its nature is very little understood. A patient afflicted with dyspepsia will generally run through a variety of treatment; he will be ordered bark by one practitioner, mercury by another, purgatives by a third; in fact, he will be subjected to every form of treatment. Now, all this is proof positive, that the disease is not sufficiently understood.

What does pathology teach in such cases? In almost every instance where patients have died with symptoms of dyspepsia, pathological anatomy proves the stomach to be in a state of demonstrable disease. It appears therefore, that whether we look to the uncertainty and vacillations of treatment, or the results of anatomical examination, the case is still the same; and that where dyspepsia has been of considerable duration, the chance is that there is more or less of organic disease; and that if we prescribe for dyspepsia, neglecting this, we are very likely to do mischief. I do not wish you to believe that every case of dyspepsia is a case of gastritis. This opinion has brought disgrace on the school of Broussais. His disciples went too far, for whether the gastric derangement depended on nervous irritation, or anæmia, or disease of the liver, or mental emotion, they prescribed leeches and water diet, and thus very often brought on the disease they sought to cure. We may have functional disease, independent of structural lesion in the stomach, as well as in any other organ; it is no unusual circumstance, and the practical physician meets with it every day. A great deal of confusion, however, arises from the similarity of the symptoms. I remember an accomplished friend of mine getting into disgrace with one of the members of a board of examiners, on this subject. He was asked to tell the difference between the symptoms of chronic gastritis and dyspepsia, and in reply stated that he could not. For this he was nearly rejected; but I believe, on a candid review of the circumstances, you will agree with me, that he knew more of the matter than the learned professor. In ninety-nine cases out of a hundred, of chronic gastritis, there is no fever, scarcely any thirst, often no fixed local pain; and this leads persons away from an idea of the existence of an inflammatory condition of the stomach.—What are the symptoms of a chronic gastritis? Pain of occasional

occurrence, flatulence, acidity, swelling of the stomach, fœtid eructations, sensation of heat and weight about the epigastrium, and perhaps vomiting. Well, these are also the symptoms of dyspepsia, whether it be accompanied by inflammation or not.

How then, when called to a case of this kind, are you to determine the point? I must mention to you here, that it is often hard to do this with certainty. There are two circumstances, however, which you should always bear in mind, as they will afford you considerable assistance in coming to a correct diagnosis; *first, the length of time which the disease has lasted;* secondly, the result of the treatment which has been employed. You will find, that where the disease is a chronic gastritis, that it has been of some duration, that it has come on in an insidious manner, and that it has been exasperated by the ordinary treatment of dyspepsia. Many persons think, that if you give a patient medicine, without regulating his diet or issuing a prohibition against full meals, that you can cure him; and that as he has no fever, and can go about his usual business, there is no necessity for antiphlogistic regimen. But as the disease goes on, he complains of pain in the stomach during the process of digestion, feels uneasy after dinner, there is an unpleasant degree of fullness about the epigastrium; he also experiences a variety of disagreeable symptoms, sometimes being annoyed with pain in the chest, sometimes he says he feels it in the region of the heart, and sometimes about the cartilages of the eighth and ninth ribs. These symptoms subside after the process of digestion is completed, but during its continuance they harass the patient. Very often relief is obtained by vomiting, and hence some persons are in the habit of throwing up their food for the purpose of relieving themselves, and consequently can have no benefit by it.—In some cases digestion goes on until the food seems to reach a particular point, and then an acute feeling of pain is experienced. In these cases the gastritis is generally circumscribed, and is likely to terminate in circumscribed ulceration. Various fluids are rejected from the stomach, during the course of a gastritis; sometimes acid, sometimes alkaline, sometimes insipid and sweet, sometimes bitter and bilious. There is generally a degree of fullness about the stomach, and the epigastrium is tender on pressure, but no decided tumor, either of the pylorus, liver, or spleen, although the epigastrium presented that appearance of fullness and tension, termed by the French "*renitence.*" The bowels too, are constipated, and this is a matter worthy of your attention, for it sometimes unfortunately happens, that the practitioner, mistaking the gastritis for simple constipation, goes on prescribing purgative after purgative, until the patient gets incurable disease of the stomach. I know a case of a lady who gets one stool a week by taking eight drops of croton oil. Some years ago, she was in the enjoyment of excellent health; her bowels happened to get confined, and she was treated by a systematic practitioner with continued purgatives; her bowels are now completely torpid, except when they are subjected to this unnatural stimulus. There are thou-

sands of persons treated in this way, because practitioners look to consequences, and not to causes.

There is one remarkable difference between acute and chronic gastritis, which deserves your attentive consideration, as it exemplifies a law applicable to all viscera under similar circumstances; and this is, that the sympathetic irritations are not so frequent or distinct in chronic inflammation as in the acute form; and hence, in a case of chronic gastritis, we almost never have fever, and the affections of the nervous respiratory or circulating systems, are by no means so well marked. It may even go on to actual disorganization of the stomach, and yet the patient will not complain of any particular symptom during its whole progress, which you could set down as depending exclusively on the sympathetic irritation of gastritis.—Some of these cases, called dyspeptic phthisis, by Dr. W. Philip, are most probably examples of the sympathetic irritation of the lungs from chronic gastritis.

Another case, respecting which much error prevails, is what has been called hypochondriasis. Persons laboring under these affections are condemned to run the gauntlet of every mode of treatment; sometimes (and fortunately for themselves) they are sent to travel, sometimes they are treated with musk and antispasmodics, then with the mineral acids, then with purgatives and mercurials, and lastly with bark, nitrate of silver, and stimulants. They go about like spectres, from one practitioner to another, trying remedy after remedy, alternately sanguine with hope or saddened by disappointment, until at last they die; and, to the astonishment of all the doctors, the only disease found, on dissection, is inflammation and thickening of the mucous surface of the stomach. A condition which, under these circumstances, it was difficult to say whether it was the original disease, or produced by "*fair trials*" of a number of powerful agents. Hypochondriasis is not always gastritis; but it is now found, that in many cases it commences and terminates with disease in the upper portion of the digestive tube and the assisting viscera. This you must always bear in mind.

Chronic gastritis terminates in various ways. Sometimes the inflammation is limited to a particular spot of the stomach, and here we frequently discover circumscribed ulcerations. In very bad cases these ulcers go on perforating the various coats of the stomach, until at last the contents of that organ escape into the serous cavity of the abdomen, and the patient rapidly sinks under a fatal peritonitis. It does not follow, however, that in all cases of perforation, the contents of the stomach get into the perineum, causing death. Very often adhesions are formed, and the base of the ulcer is the serous covering of some other portion of the digestive system, or a false passage may be formed into the colon. One of the most common terminations of a chronic gastritis is, that the inflammation extends to other viscera; the patient gets disease of the liver, spleen, peritoneum, or lungs, and sinks under a complication of disorders. It was somewhat in this way that Napoleon died. He labored for a considerable time under

chronic disease of the stomach, which seems to have been overlooked by his medical attendants, and this terminated in the extension of disease to various other organs.—*Lond. Med. and Surg. Jour., Jan. 25th*, 1834.—*Am. Jour. Med. Sciences.*

6. *Treatment of Chronic Gastritis.* By WILLIAM STOKES, M. D. [Extracted from Lectures on the Practice of Medicine.]—The first thing you should do, when called to treat a case of dyspepsia, is to ascertain whether it be a purely nervous disease, or a chronic gastritis. The majority of practitioners give themselves no trouble about this matter, not recognising the fact, that of the number of dyspeptic persons who seek for medical advice, a considerable proportion are really laboring under a chronic gastritis, and forgetting that in consequence of long continued functional injury, what was at first but a mere nervous derangement, may afterwards become complicated with organic disease. You must also bear in mind, that the stomach is perhaps placed under more unfavorable circumstances for bringing about a cure than any other organ, because the life of the individuals demands that the stomach, though in a state of inflammation, should still continue to perform its functions. In treating diseases of other organs, you will have the advantage of a comparative state of rest; but in a case of the stomach, if you wish to preserve life, you cannot prohibit nutriment, and consequently you must run the risk of keeping up these periodic vascularities which its condition requires, which, though harmless in health, become a source of evil when the stomach is diseased. The obvious deduction from this is, that the cure of a chronic gastritis depends as much upon regimen as upon medical treatment; and particularly where the symptoms have arisen from long continued excitement, as in the case of persons who live highly. Here the treatment chiefly depends on regulating the diet, and if your patient has sense enough to live sparingly for a few weeks or months, you may be able to effect a cure without other treatment. The great error is, that most practitioners attempt to cure the disease by specifics, and when these fail, they then go to the symptomatic treatment, prescribing sometimes for acidity, sometimes for nausea, sometimes for flatulence, sometimes for constipation, or "the liver," or debility.

You should be careful in the examination of such cases, and should try to ascertain whether these symptoms may not depend upon inflammation of the stomach; for as long as the patient is in this state, the less you have recourse to symptomatic or specific treatment, the better. It is hard to mention one single medicine which in this state will not prove stimulant; and if the stomach be unfit for stimulants, it must be unfit for the generality of medicines. There are numbers of cases of persons laboring under chronic gastritis, which have been cured by strict regulation of diet, and by avoiding every article of food requiring strong digestive powers. We find that articles of diet vary very much in this respect; some are digested with ease, some with pain. We might express this otherwise, by saying, that some require very little excitement of the stomach, and others very great

vascular excitement. Patients in this irritable state of stomach, can scarcely bear any kind of ingesta; and when you consider the great vascularity, thickening of the mucous membrane, and tendency to organic disease, you will be induced to think that every thing entering the stomach should be of the mildest kind, and not requiring any powerful determination of blood to that organ.

If you continually prescribe for symptoms, neglecting or overlooking the real nature of the disease, giving arsenic to excite the system, and iron to remove anæmia, and bitter tonics to improve the appetite, and alkaline remedies for acidity, and carminatives to expel flatus, you will do no good; you may chance to give relief to-day, and find your patient worse to-morrow; and at last he will die, and you may be disgraced. On opening the stomach after death, you are astonished to find extensive ulceration, or perhaps cancerous disease. Very often in such cases, practitioners say that it is cancerous disease, and that no good can be done. But the thing is, to be able to know, when you are called to a case, whether it is a case of mere nervous dyspepsia, or chronic inflammation of the stomach. Some of the best pathologists think that most of the cancerous affections of the stomach, are in the beginning only chronic inflammations of that organ.

I believe we have not yet in this country adopted the plan of moderate application of leeches to the epigastrium, in cases of chronic gastritis. I have seen in many cases great benefit result from the repeated application of a small number of leeches to the epigastrium, at intervals of two or three days. Here is a point which you will find very useful in practice. You will meet with cases which have lasted for a long time; cases where there is strong evidence of organic disease, and which have resisted the ordinary dyspeptic treatment. You will be called frequently to treat these three different cases,—where the disease has been of long duration, where there is distinct evidence of organic disease, and where the disease has resisted the ordinary dyspeptic treatment. Here is a case of a patient laboring under what is called indigestion, and which has resisted the stimulant, and tonic, and purgative treatment. Here is one fact. In the next place, the disease is chronic, and the probability is, that there is inflammation, and consequently that there is chronic gastritis. Now if in such a case you omit all medicine by the mouth, apply leeches to the epigastrium, keep the bowels open by injections, and regulate the diet, you will often do a vast deal of good. I have seen, under this treatment, the tongue clean, the pain and tenderness of the epigastrium subside, the acidity, thirst, nausea, and flatulence removed, the power of digestion restored, and all the symptoms for which alkalies, and acids, and tonics, and purgatives, were prescribed, vanish under treatment calculated to remove chronic inflammation of the stomach.

What is next in importance to regulated regimen and local bleeding?—A careful attention to the bowels, which in chronic gastritis are generally constipated, and this has a tendency to keep up disease in the upper part of the digestive tube. Is this to be obviated by introducing purgative medicine into the stomach?—No. If you introduce

strong purgative medicine by the mouth, you will do a great deal of mischief. You must open the bowels by enemata, or if you give medicine by the mouth, by the mildest laxatives in a state of great dilution. A little castor oil, given every third or fourth day, or a little rhubarb with some of the neutral salts, will answer in most cases. The diet too, can be managed so as to have a gently laxative effect. The use of injections is, however, what I principally rely on. I have seen many cases of gastritis cured by the total omission of all medicine by the mouth, by giving up every article of food which disagreed with the stomach, and by the use of warm water enemata. I have seen this treatment relieve and cure persons whose sufferings had lasted for years previous to its employment, and who had been considered by eminent practitioners to labor under organic disease of an incurable nature. It is important that you should bear this in mind. The old purgative and mercurial treatment of gastritis, I am happy to say, is rapidly declining; and British practitioners are now convinced, that they cannot cure every form of dyspepsia by the old mode of treatment. I do not deny that many diseases of the digestive tube may be benefitted by the mild use of mercury and laxatives, but I think I have every reasonable and scientific practitioner with me, in condemning the unscientific routine practice, which was followed by those who took the writings of Abernethy and Hamilton for their guide. I do not say, that where cases of gastric inflammation, treated after the plan of Mr. Abernethy, have proved fatal, the medicines have destroyed life; I merely assert that the patients died of inflammation, over which these medicines had no control; and the error lay in mistaking and overlooking the actual disease, as much as in its maltreatment. You will find some practitioners, (they are becoming fewer in number every day,) who seem to have but two ideas, the one a purgative, the other a pot full of fæces; but the connecting link,—the gastro-enteric mucous membrane,—that vast expansion, so complicated, so delicate, so important, seems to be totally forgotten. But practitioners are now beginning to see that purgatives are not to be employed empirically; that they should be administered in many cases with great caution, and with a due attention to the actual condition of the alimentary canal, and that they have been a source of great abuse in the medical practice of these countries.

Next to leeching and the proper regulation of the bowels, is the employment of gentle and long continued counter irritation over the stomach. This may be effected by the repeated application of small blisters, or by the use of tartar emetic ointment. I have been in the habit of impressing upon the class, that the tartar emetic ointment used in these countries, is too strong, the consequence of which is an eruption of large pustules, which are excessively painful, and often accompanied with such disturbance of the constipation as amounts to symptomatic fever. In fact tartar emetic ointment of the ordinary strength, produces so much irritation that few patients will submit to it long.—The form which I recommend you to employ is the following:—Take seven drachms of prepared lard, and instead of a drachm of tartar

emetic, which is the usual quantity, take half a drachm, directing in your prescription, (this is a point of importance,) that it be reduced to an impalpable powder; and you may add to it, what will increase its action, one drachm of mercurial ointment. This produces a crop of small pustules, which give but little pain and are easily borne; and the counter irritation may be kept up in this way for a considerable time, by stopping for a few days, until the eruption fades away, and then renewing the friction. I have often seen the utility of this remedy exemplified in cases of chronic gastritis, where the symptoms of gastric irritation, which had subsided under the employment of friction with tartar emetic ointment, returned when it was left off, and again vanished when it was resumed. The case of the celebrated anatomist, Beclard, furnishes a very remarkable proof of the value of a well regulated diet, and repeated counter irritation, in the treatment of this disease. While he was engaged in the ardent prosecution of his professional studies, he got an affection of the stomach, which he considered to be a chronic gastritis, and immediately put himself under a strict regimen, using at the same time repeated counter irritation.—He kept up the counter irritant plan for a considerable length of time, for he found, that when he discontinued it, the gastric symptoms had a tendency to return. In this way he got completely rid of the disease. Several years afterwards he died of an attack of erysipelas; and on opening his stomach, the cicatrix of an old ulcer was discovered in the vicinity of the pylorus, which was exactly the spot to which he had referred his pain during the continuance of the gastric affection.

Gentlemen, there is perhaps no science in which the motto "*medio tutissimus ibis*," is of more extensive application than in medicine.—Some physicians on the continent, particularly the disciples of Broussais, having repeatedly witnessed the advantages of strict regimen and local depletion, in chronic gastritis, have pushed this practice too far. They seemed to forget that the system requires support and nutrition, which can be effected only through the agency of the stomach; they saw the evils which result from the use of stimulating food, in cases of chronic gastritis; and looking to these alone, they ran into the opposite extreme; the consequence of which was, that they kept their patients so long upon low diet, that they actually produced the very symptoms which they wished to remove. The patients became dyspeptic from real debility of the stomach and the whole frame. You remember a general law of pathology, to which I have alluded on a former occasion, and which I shall again mention, as it illustrates this point; namely, that opposite states of the economy, may be accompanied by the same symptoms. Thus we observe, that palpitation may depend upon two different causes—on a sthenic or asthenic condition—on the presence of too much or too little blood in the heart. Now it frequently happened, that patients laboring under chronic gastritis, and who had been treated for a long time after the strict plan adopted by the Broussaists, finding themselves not at all improved, went to other physicians, who had different views, and were rapidly cured, by

being put upon a full nutritious diet. In this way numerous cases, which water diet and depletion had only aggravated, were relieved, and the consequence was, that a mass of facts was brought forward and published, not long since, by a French author, against the antiphlogistic treatment of dyspepsia and chronic gastritis. It must be stated, however, that the cases which he published were chiefly those in which the depleting system had been carried to excess; and that they cannot therefore, be received as proofs of the value of a stimulating diet, in the treatment of chronic inflammation of the stomach. Bear this in mind; the sooner you can put your patient on a nutritious diet, the better will it be for him. It would be absurd to keep a patient for many months, as the Broussaists have done, on slops and gum water. It will be necessary for you to feel your way, and improve the diet gradually. Commence by giving a small quantity of mild nutritious food; if your patient bears it well, you can go on; if the gastric symptoms return, you can easily stop. If a small portion of the milder species of food rests quietly on the stomach, you may increase it the next day or the day after, and thus you proceed to more solid and nutritious aliment, until the tone of your patient's stomach regains the standard of health. Never lose sight of this fact, that you may have a case of dyspepsia, depending on a chronic gastritis, in which, though you remove the *inflammation*, by a strict antiphlogistic treatment, you may not by this remove the *dyspepsia;* and if you continue to leech, and blister, and starve your patient, *after the inflammatory state be removed*, you will do great injury. Such a patient, falling into the hands of another practitioner, who treated him on a different system, might be relieved, and his case quoted against you and your treatment, though this, at the commencement, was judicious and proper.

With respect to internal remedies, the school of Broussais think that there is nothing required but cold water and gum. This is going too far. In a former lecture, I have drawn your attention to the fact, that in the treatment of acute inflammation, there is a point where antiphlogistics should cease, and where tonics and stimulants are the most efficient means of cure. Of this fact, the disciples of Broussais appear to be ignorant, and they consequently declared against every remedy for chronic gastritis, except leeches and cold water. Now is this right? I think not. We find that, in all cases of gastric inflammation, a change in medication seems to be useful at some period of the disease; that is, a change from antiphlogistics to tonics and stimulants; and I believe that in cases of chronic gastritis, these remedies may be used with very great advantage, having of course premised depletion and counter irritants. I believe too, that most of the remedies which we see every day unsuccessfully employed, would have acted beneficially, if the preparatory treatment which I have mentioned had been adopted. Among the best remedies of this kind, is the oxide of bismuth; I have seen more benefit from the use of this than of any other medicine, after the treatment already alluded to.—Generally speaking, the list of internal remedies for chronic gastritis,

is very small; but after the use of antiphlogistics, you may prescribe the vegetable tonics and oxide of bismuth with advantage.

The most decidedly valuable remedy, however, in the after stage of a chronic gastritis, is the acetate of morphia, which I am convinced has a very powerful effect in allaying chronic irritation of the stomach. Dr. Bardsley, of Manchester, in one of his published works, entitled "Hospital Facts and Observations," adduces many cases of gastric irritation which were completely relieved by the use of this remedy, and I am perfectly satisfied of the truth of his statements. It may be said, that Dr. Bardsley's cases were only instances of dyspepsia. But as his cases were extremely numerous, some of them of long standing, and the symptoms very severe, the great probability is, that some of them at least must have been cases of chronic gastritis. I know very few books, the perusal of which I would more strongly recommend to you, than Dr. Bardsley's accurate and instructive work. The great besetting sin of Medical writers is, that their statements of successful practice are grounded on a very limited number of cases; or that, in publishing the result of their practical investigations, they only give their successful cases, and leave out those in which the treatment recommended has been found inefficacious. Yet this is a circumstance which should never be neglected. If a man declares that he has discovered a cure for gastritis, or dyspepsia, and brings forward one hundred cases in which the remedy has done good, the statement is still unsatisfactory and insufficient, because there may be one thousand cases in which it has totally failed. Unless he comes forward and gives both his successful and unsuccessful cases, of what value are his statements? Dr. Bardsley, with the candor and good sense which always characterize the philosophic inquirer, gives the result of *all* his cases, forms them into tables, and then leaves his readers to judge for themselves. From an inspection of these tables, you will be convinced of the efficacy of acetate of morphia, in the treatment of chronic gastritis. I have been in the habit of using it, with the most gratifying results, after leeching, regulating the diet, and paying proper attention to the state of the bowels. There are some forms of the disease in which it is more useful than others. The particular form in which it proves most serviceable, is where there is a copious secretion of acid from the stomach, (that form in which all kinds of alkalies have been exhibited,) where severe pain and constant acidity are the prominent symptoms. Here I have seen the acetate of morphia act exceedingly well. You may begin with one-twelfth of a grain, made into a pill with crumb of bread, or conserve of roses, twice a day; the next day you may order it to be taken three times, and you may go on in this way until you make the patient take from half a grain to a grain and a half in the twenty-four hours.

I shall here mention the circumstances of a case, which I do not mean to bring forward as an instance of cure, but as an illustration of the extraordinary power which acetate of morphia possesses in relieving gastric irritation. A gentleman of strong mind, and highly cultivated intellectual powers, which he kept in constant exercise, got a

severe chronic gastritis; his appetite completely declined; he had frequent vomiting of sour matter; fœtid eructations; and such violent pain in the stomach, that he used, when the attack came on, to throw himself on the ground and roll about in a state of indescribable agony. He applied to various practitioners, had several consultations on his case, and the opinion of the most eminent medical men was, that he had incurable cancerous disease of the stomach. These symptoms continued for several years, but for the last two or three years they were quite intolerable. He had repeated cold sweats, vomited every thing he took, even cold water, was reduced to a skeleton, and led a life of complete torture. Under such circumstances, he tried for the first time, by my advice, the acetate of morphia. He tried it first in doses of one-tenth of a grain, three times a day, and experienced the most unexpected relief. On the third day, all his bad symptoms were gone. He had no pain, no vomiting, no sweats; his spirits were raised to the highest state of exhilaration, and he thought himself perfectly cured. He went out in the greatest joy, visited all his friends, and told them that he had at last got rid of his tormenting malady. In the evening he joined a supper party, indulged pretty freely, and next morning had a violent hæmatemesis, to which he had been for some time subject.—All his old symptoms again made their appearance. He again had recourse to the acetate of morphia, and again immediately experienced relief; but the vomiting of blood again returned, so that he discontinued the remedy. This gentleman is now in the enjoyment of good health. He regulated his diet, left off all medicine by the mouth, used warm water injections, and thus recovered from his supposed cancer.

I do not bring this case forward as an instance of the curative effect of acetate of morphia, but as an instance of its powerful effect in allaying gastric irritation. I could adduce other cases, in proof of its value in the treatment of the after stage of chronic gastritis, and particularly of that form in which pain and acidity are the prominent symptoms; but I perceive my time has nearly expired. At my next lecture, I shall give some other particulars connected with this subject, and then proceed to the consideration of diseases of the small intestine.

In speaking of the employment of counter irritation, in cases of chronic gastritis, I forgot to mention the use of friction with croton oil, which has been found beneficial in many cases of chronic inflammation. It has been extensively used by many practitioners, in the treatment of chronic affections of the joints, and in various forms of pulmonary disease; and I have employed it myself in some cases of chronic gastritis, with benefit. I cannot say that the cases in which I have used it, presented all the symptoms of chronic gastritis, but they were certainly cases of chronic gastrodynia, with severe local pain, nausea, and loss of appetite. It is an excellent counter irritant, and gives very little pain. The mode in which I employ it is this,—take a few drops of croton oil, five or six for instance, drop them on the epigastrium, and rub them in with a piece of lint or bladder interposed between your finger and the skin, and the next day you have an eruption of small papulæ, which you can increase at will. There is one

interesting circumstance connected with the use of croton oil frictions, which you should be made acquainted with. The liability to produce counter irritation, seems to depend upon the absorption or non absorption of the croton oil; if it be absorbed it will purge, but if it be not, it will produce counter irritation. In cases of this kind, therefore, where it produces the necessary degree of irritation in the skin, the chances are, that it will not act disagreeably, by bringing on catharsis. I have only seen one case where there were both the eruption and catharsis. This was a gentleman who had lately suffered from dysentery in warm climates.

I may also mention, that in convalescence from an attack of chronic gastritis, you must pay great attention to diet, for a long time, because there is no affection of any organ in the body, in which an error in diet so rapidly induces a return of the original symptoms, as in disease of the stomach, while each return of the disease renders the attack more dangerous and unmanageable, until at last disorganization takes place.—*Ibid., Feb. 1st and 8th,* 1834.—*Am. Journ. Nat. Sci.*

7. *Hydrocele cured by Tincture of Iodine.*—M. P. Record, Surgeon to the *Hopital des Vénériens*, has employed the tincture of iodine with success, in five cases of hydrocele independent of any syphilitic cause. The tincture of iodine is diluted with distilled water, and applied to the tumors by aid of compresses imbibed with it, and in which the scrotum is enveloped. M. Record employs the tincture in four different degrees of concentration:—1st. Tinct. iod ʒj.; Aq. distil. ʒiij.; 2d. Tinct. iod. ʒij.; Aq. distill. ʒiij.; 3d. Tinct. iod. ʒiij.; Aq. distill. ʒiij.; 4th Tinct. iod. ʒvj.; Aq. distill. ʒiij. In subjects whose skin is very delicate, and epidermis thin, the last formula is employed. When there is less sensibility, and some hardness of the tissues, the other formulæ are employed pro re nata. For the medicine to produce its beneficial effects, the patients must experience a rather vivid but supportable sensation of heat; and without there being burning or vesication, the skin of the scrotum must become brown, or pass into brownish red, the epidermis becoming like parchment, and forming scales that are detached leaving beneath them a sort of thick transpiration, still without vesication. So long as these results are not obtained the dose of the tincture of iodine must be increased, the quantity of distilled water remaining the same; but when these effects have resulted, the tincture of the same degree of concentration must be continued by steeping compresses in it, and renewing them twice a day. If pain supervene, the application is suspended for a few days, and its use resumed until the disappearance of the tumor.—*Journal des Connaisances Med. Chirurg. Jan.* 1833.—*Am. Journ. Nat. Sci.*

8. *Resection of Bones in Ununited Fractures.*—Surgeons have long entertained an opinion with regard to the resection of bones in cases of ununited fractures, which M. Dupuytren considers as very injurious. They imagined it was absolutely necessary to cut out both fragments of the bone, before a solid callus could be laid down; hence

they avoided this operation in a great number of cases when this resection was extremely difficult if not impossible: thus, for example, they rarely had recourse to it in fractures of the femur, where the fragments frequently ride upon one another; the upper portion is the only one which can generally be got at with facility, while the inferior fragment, carried backwards and inwards, is too deep seated to be exposed by an incision in this direction, while the presence of important vessels prevents any operation on the inner side of the limb. M. Dupuytren is inclined to hold this opinion as altogether wrong, and maintains that the resection of one fragment is sufficient to obtain the consolidation of both; at least two cases in which he employed this practice turned out successfully.—*Lecons Orales.—Am. Jour. Med. Sciences.*

9. *Treatment of Fractured Limbs, by Inclosing them in Plaster Moulds, &c.*—The eminent German surgeon DIEFENBACH is in the habit of treating many cases of fracture, especially of the bones of the leg, by enveloping the limb, or only three-fourths of its circumference, with plaster of Paris, after it has been ascertained that the fractured extremities lie in normal apposition with each other. It is of advantage to leave the anterior part of the limb exposed, as we have thereby an opportunity of watching the progress of the cure, and of applying any local remedies which may be necessary, especially when the case is one of compound fracture.

The principle of Dieffenbach's plan, that of an unmoveable apparatus round the broken limb, has been adopted by many surgeons both of ancient and of modern times. It is to that glory of French military surgery, M. Larrey, that we are chiefly indebted for its establishment in present practice. In the Russian campaign, the method was most extensively adopted, and many a limb which had been fractured by gun-shot injuries, and had been thus treated, was found, on the return of the poor fellows to France, to have knit together most admirably, although the dressings had never once been removed, from the period of the accident. Larrey's apparatus has also the great advantage of being composed of materials the most simple, cheap, and almost always at command; for all that is required is a quantity of linen, straw, eggs, camphorated spirits, and of cold lead lotion. The mode of its adjustment is little more complicated than the application of a common bandage; and when once secured, the member is comparatively safe; and the patient, instead of being condemned to repose for a lengthened period, may be permitted to rise on the third or fourth day, and move about on crutches. Whatever be the limb which has been fractured, there is little risk of the apparatus being disturbed, even by a long journey; and if the jolting of the carriage be painful or improper, there is nothing to prevent the simultaneous employwent of suspension, as proposed by M. Sauter. But often this is not necessary; for in from twenty-four to thirty-six hours, after the apparatus has been applied, it forms a compact, coherent, and accurately fitting mould or case round the whole of the limb, so that no one part of it can be moved

without the rest of the limb following the motion; thus all danger of lateral displacement is securely guarded against. It may be supposed that it is less efficacious in counteracting the shortening of the broken limb than some methods of permanent extension; this may possibly be true, but when it is stated that, out of eight cases of fractures of the femur, six were cured, without any shortening of the extremity, the argument cannot form any very potent objection to the practice; and indeed the very fact of all the muscles of the limb being equally and strongly compressed, (for the apparatus should be made to incase the whole of its length,) subdues in a great measure their tendency to contraction, and therefore obviates the tendency of the bones to ride over each other.

But if the immoveable apparatus which we have so strongly praised, and which our readers will find described at length in the third volume of Baron Larrey's Clinique Chirurgicale, and also in an admirable thesis published lately by his son, possessed no other advantages besides the one of permitting the patient to move about safely during the treatment of his fracture, we should deem this sufficient to recommend it to the notice of surgeons; perhaps a case in point will be received as the most satisfactory evidence of the benefits accruing from its adoption.

A man of healthy constitution was admitted into a hospital for a complete fracture of the bones of the leg, about two inches above the malleoli. During six weeks he was treated by the common method, but at the end of that time it was found that union had not taken place. The foot being considerably everted, M. Berard first brought it into its right position, and then retained it there by means of Dupuytren's splints for another month and a half; and although there had been no displacement all this time, there was still a complete failure of any bony union. The immoveable apparatus was now applied; and when this had become sufficiently firm and compact, the man was allowed to get out of bed and walk about the ward on his crutches, without ever putting the broken limb to the ground. After the expiration of six weeks a perfect cure was obtained.—*Med. Chir. Rev. from Archives Générales.—Am. Jour. Med. Sciences.*

10. *On Bony Union of Fractures of the Neck of the Thigh Bone.* By Sir Astley Cooper.—I find in a report of Le Baron Dupuytren's lecture, that he attributes to me the opinion, that fractures of the neck of the thigh bone, within the capsular ligament, not only "never unite, but that it is impossible they should unite by bone."

It is quite true that, as a *general principle*, I believe that those fractures unite by ligament, and not by bone, as do those of the patella and olecranon. But I deny that I have ever stated the impossibility of their ossific union; on the contrary, I have given the reason why they occasionally may unite by bone.

The following are my words—"*To deny the possibility of their union, and to maintain that no exception to this general rule may take place, would be presumptuous.*"

I then proceed to state that the cause of the deficient union is to be found in the reflected ligament of the cervix femoris being torn through, and that thus a defective nutrition of the head of the bone is produced. But I held, that if the reflected ligament remained whole, or was but slightly torn when the bone was broken, it would unite by means of its cancellated structure; but that in such a case the limb would not be shortened in the usual manner, nor would the case have the common characteristics of this accident.

In proof of the truth of these observations, I shall give the following quotation from Mr. Swan's work on the Diseases of the Nerves, page 304.

"Case.—Mrs. Powell, aged above eighty years, fell down in the afternoon of the 14th of November, 1824. I saw her soon after, and found her complaining very much of pain in the left hip. The limb could be moved in every direction, but this motion produced excessive pain. She lay on her back, with the limb extended; and nothing *was ever done*, except the application of fomentations for the first few days. I believed there was a fracture of the neck of the thigh bone, although the limb remained quite as long as the other, and I neither perceived a crepitus, nor any altered appearance in its position, except a slight inclination of the toes outwards. She had more constitutional irritation than I ever observed from a similar accident. She suffered much pain in her hip, and was in consequence obliged to take an opiate; but she got very little rest. She generally had much thirst. There was the utmost difficulty in keeping her bowels open; and she had great pain and difficulty in making water. She had no appetite for common food, and for three weeks appeared so weak, that she was under the necessity of taking wine and brandy. For some time, all her urine and stools were passed in bed, but not involuntarily, and only because she could not be persuaded to use proper means; in consequence, her back became very sore. Latterly she complained of pain in the abdomen, which was very tender on pressure, and made even the weight of the bed clothes inconvenient. Her tongue became very dry and brown; and in the last twenty-four hours she was insensible. She died on the morning of the 19th of December, about five.

"*Examination.* This took place at seven in the evening.

"There was some echymosis amongst the muscles about the injured part, and in the cellular membrane, about the sciatic and anterior crural nerves. The greatest part of the fracture of the neck of the thigh bone, which was entirely within the capsular ligament, was firmly united.

"A section was made through the fractured part, and a faint white line was perceived in one portion of the union, but the rest appeared to be entirely bone." Mr. Swan goes on to say, "This beautifully shows the principle which Sir Astley Cooper has advocated—viz.—that when the reflected ligament remains whole, and the bones are not drawn asunder, the nourishment to the head of the bone continues, and union will be produced even in the short space of five weeks, by

only placing the knee over a pillow, and in other respects leaving the case to nature."

Of the contrary state of the fracture—viz. that in which the reflected ligament is torn—I may give the case sent to me by Mr. Robertson, of Sheerness, in which the patient's limb was extended for six months without any ossific union.

On the 25th of June, 1822, William Durain, aged 62, a tall, athletic convict, of a sanguine temperament, fell with a very inconsiderable violence, across a piece of timber in the dock yard, his left hip coming in contact with the wood. On rising he felt an acute pain in the region of the acetabulum, but no other inconvenience, for he walked on board to exhibit himself to the surgery man. From finding him ranked up with the sick of the hulk, on my morning visit of the 26th, from his walking on board, and from his own account of the accident, I did not suspect any serious injury to the joint, and treated the case as one of concussion. On the 29th, however, he complained of a very sudden and very agonizing accession of pain, which induced me to subject him to a more critical examination. No evident alteration in the size of either hip could be discerned, but a shortening of the limb was conspicuous, which was rendered more evident by making him stand upon the sound limb: extension removed this difference; but, on being freed from restraint, it again assumed its morbid shape; the knee and foot were everted, and rotation greatly increased his pain.

I removed him to the hospital, as a case of fracture within the capsule; but a continued attention for a period of six months to position, (chiefly with a view of restraining the motion of the pelvis, and of securing the limb,) made no other alteration in the symptoms than a gradual diminution of pain: a pair of crutches were given him, he was placed on the invalid list, and remained till the 26th of September, when he died from general dropsy. On dissection, the injury proved a transverse fracture of the head of the femur, within the capsular ligament; no species of union had taken place. The upper portion of the fractured bone was retained in situ, by the sound ligament, tolerably smooth upon its surface, but without any ossific doposit.

The lower portion was very irregular, with several detached pieces of bone adhering to the insertion of the capsular ligament. Between the acetabulum and the portion of bone retained in situ by the ligament, were several small, oval shaped, loose cartilaginous substances, apparently fragments of bone; the capsular ligament partially lacerated, in a line above the trochanter major, and greatly thickened in its insertions.

I should not have given you this trouble, nor should I have taken it myself, but for the respect I bear my friend the Baron Dupuytren; for, although I have already submitted myself to be misrepresented by many individuals, yet I should be sorry to be misunderstood by so excellent a surgeon, and so valuablo a friend, as le Baron Dupuytren. —*Medical Gazette, April 25th,* 1834.—*American Journal of the Medical Sciences.*

11. *Lithotomy.* [Extract of a letter from a physician in Paris, to the Editor.] I often attend CIVIALE's operations for stone, at the Hospital Necker. There seems to be no difficulty whatever in introducing the straight instrument into the bladder, and he sometimes succeeds in grasping the stone instantly; but very often he fails, and is compelled to postpone the operation on account of the pain experienced by the patient. I have seen his patients suffer more, apparently, from an unsuccessful attempt to break or drill the stone, than patients generally do from the operation with the knife. Agreeably to a report, made by Larrey and Boyer to the Academy of Sciences here, on the account rendered by Civiale, of his operations in the Hospital Necker, more than one third of his patients die, besides those that remain uncured. This operation, as practised here at present, is not attended with that success that is generally supposed in the United States.—There are a great number engaged in the operation, and each one has a different mode. From a report made to the Academy of Sciences by Baron Heurteloup, now operating in London, of his new instrument and its use, it seems that he has great success. M. Amussat has improved upon Heurteloup's instrument, and by his polite invitation, I have seen him operate with it frequently. This is the most simple, and I presume the best at present. It is composed of two pieces, and when prepared to enter the bladder, resembles a common sound. It is opened after entering the bladder; the stone is caught, and broken by percussion applied by means of a small hammer.

I have seen Amussat's patients suffer much from extracting the fragments of stone that lodge in the urethra after being broken to pieces.

I have taken some pains to collect all the information in Paris relative to the different modes of operating for stone. I have seen all the instruments that have been invented—have seen them tried often upon the dead subject, and the living, by their inventors, and those most skilled in their use, and I am now fully convinced, that the *lateral* operation is far preferable to any other mode practised at present. Notwithstanding the horrid success attending lithotomy, as performed by Dupuytren, in the Hotel Dieu, it is not so painful to witness or think of, as the operation of Civiale at Necker. Dupuytren loses one in four or five.

It is not only in the operation for stone that we see such mortality in Paris, but in all other capital operations. I saw Dupuytren amputate the thigh of a healthy looking girl, for what he called rheumatism of the knee joint. When done the operation, his hands were full of ligatures. The patient was sent off without any dressing to the stump. In two weeks the *cadaver* of the girl was brought in for Dupuytren to explain the cause of her death. The os femoris was bare for some inches.—*Transylvania Journal of Medicine.*

12. *The New Alkaloids.*—The numbers of the *Journal de Pharmacie* for February and March, contain some interesting particulars on several of the new alkaloids.

Sarsaparilline.—This substance (says M. Thubeuf) is regarded as the active principle of sarsaparilla. Like the original root, it communicates to water the property of frothing when agitated, and gives it that sharp bitter taste which we find in the aqueous or alcoholic infusions of sarsaparilla. When examined by the microscope, it presents radiated crystals, the layers of which converge toward their extremities, and it has no action whatever upon turnsole paper. Sarsaparilline, when pure, is white, without odor, and, if it contain no water, is tasteless. It is little soluble in cold water, but the whole is taken up by boiling water, which throws it down again as it grows cold. It is soluble in alcohol, either cold or warm, and the substance may be crystallized in this manner by evaporation. It may be precipitated from its alcoholic solutions, by the addition of a little cold water. This alkaloid is insoluble in ether, even at the boiling point, but is very easily dissolved in a warm mixture of alcohol and ether in equal quantities.

Atrophine.—This substance (say MM. Geiger and Hesse) already noticed by Brande, has been obtained from the atropa belladonna. It has presented identical properties when obtained from the same part of the plant by different processes. It is white, and crystallizable into bright transparent prisms, which have a tendency to group together; at the ordinary temperature, water takes up only a hundredth part of the mass. The aqueous solution of atrophine renders turnsole paper blue, when reddened by an acid. It acts on the organ of vision in the same way as belladonna, and even a very weak solution is sufficient to dilate the pupil, which remains in that state for a considerable time. Chlorine has very little action upon it, and it seems to form sub-saline compounds with the acids. The aqueous infusion of atrophine forms an abundant white precipitate with the aqueous infusion of galls, and it forms an orange yellow precipitate with the hydrochlorate of gold.

Hyosciamine.—This alkaloid is most easily obtained from the seeds of the hyosciamus niger. It crystallizes into transparent colorless needles. Its taste is acrid and disagreeable, like that of tobacco, and it has a powerfully poisonous action. The smallest quantity placed on the eye, produces permanent dilatation of the pupil; in an anhydrous state it is not alkaline, but becomes so by the addition of a small quantity of water. The salts of hyosciamine are neutre, they are partially crystallizable, and are as poisonous as the plant itself.

Daturine.—This alkaloid has been extracted by the same chemist from the datura stramonium. It readily crystallizes into regular prisms, which are colorless and brilliant. It is inodorous. The taste is at first slightly bitter, and then becomes very acrid, like that of tobacco. Daturine is a highly poisonous substance; one-eighth of a grain was enough to poison a sparrow in three hours. When placed on the eye, it occasions a strong and permanent dilatation of the pupil.

Solanine.—This substance, already discovered by several French chemists in the solanum nigrum, solanum dulcamara, and the solanum mammosum, has been recently found in the potato, by M. Otto, of

Brunswick. He obtained the alkaloid in the following manner:—The potato buds were first treated in water, acidified by sulphuric acid; he then separated the sulphuric and phosphoric acids, with the extractive matter, by acetate of lead; the colorless liquor which remained was saturated with lime water, and the precipitate boiled in alcohol; and the product thus obtained was purified by frequent washing in alcohol. In order to determine its action on the animal economy, M. Otto tried the effects of this substance upon rabbits, and found that it should be ranged amongst the acrid narcotic poisons. One grain of solanine was sufficient to kill a rabbit in six hours; a second rabbit, which was much stronger than the former, was destroyed in nine hours after having taken three grains. It exercises a remarkable paralysing effect on the hinder extremities of the animal before occasioning death, and this paralysis may be produced in horned cattle by simply feeding them on the washings of potato tops. This substance is white and powdery, and turns blue turnsole paper which has been reddened by the action of an acid. The greater part of its salts assumes an aspect like gum upon desication.

Colchicine.—This alkaloid crystallizes into delicate needles; its flavor is very bitter; when placed in the nares it does not excite sneezing, while the smallest portion of veratrine occasions a violent fit.—Colchicine is a strong poison. One-tenth of a grain dissolved in alcohol was given to a cat six weeks old; the animal began at once to foam at the mouth; after the lapse of an hour she passed abundant alvine evacuations, and vomited; she soon became feeble, unable to walk steady, fell down on the ground, rolled about, and was agitated by convulsive motions; these symptoms increased in severity; the animal died in twelve hours. On examining the body after death, the intestinal canal was found to be violently inflamed, and blood was effused into its tissue through the whole extent. One-twentieth of a grain of veratrine was given to a younger cat, in order to judge of its effects by comparison; they were very energetic; the animal quickly became feeble, was seized with convulsions, fell on the ground, and died within ten minutes. After death nothing remarkable was discovered, except inflammation at the upper part of the œsophagus.—This portion of the canal was not inflamed in the cat poisoned by colchicine.

Aconitine.—M. Geiger has found this alkaloid in the leaves of the aconitum napellus; it does not seem susceptible of crystallization.—When perfectly pure, it is white, grained, and forms a colorless, transparent mass. Its taste is bitter, then acrid, but the acridity is not strong or permanent. In this respect it differs from the plant, whose taste often remains twelve hours, leaving the tongue quite benumbed. The acrid principle is united with the aconitine, from which it may be separated by repeatedly combining the alkaloid with acids. When this substance is completely deprived of the acrid principle, it is excesively poisonous; the one-fiftieth part of a grain, dissolved in alcohol, was sufficient to kill a sparrow in a few minutes, and one-tenth of a grain destroys a small bird with the rapidity of lightning. When

placed on the eye it produced dilatation of the pupil, but the effect is of short duration.—*French Gazette.—Boston Medical and Surgical Journal.*

Longevity of Medical Men.—It is a common impression, and one which has received confirmation from examples which have been presented to us in this immediate vicinity, that physicians, as a body, attain to more than the average duration of human life—that the cares, the anxieties. and the vexations to which this profession are subjected, are in some measure compensated by an extension of their term of existence, beyond what is usually allotted to mankind. Here in this city, and before our own eyes, the instances of medical longevity have been sufficiently numerous to encourage this idea; and the single fact that the venerable Holyoke nearly attained the great age of 101 years, was of itself sufficient for the foundation of an hypothesis. It might indeed seem surprising that this should be the characteristic of a profession, the members of which are not as a body endowed with stronger physical powers than the avarage; a profession which dooms one to a most irregular vicissitude of toils and labor, and unprofitable rest; which wages an implacable warfare with all uniformity and regularity of habits; which interrupts, defers, and abridges the meals, breaks in upon the hours of sleep, and often leaves scarce time for the absolutely necessary attentions to the person; which makes it almost impossible to meet with proper measures the incipient stages of disease; which exposes to the inclemencies of the weather, both in season and out of season, by night and by day; which at once wearies the body with toil and the mind with anxiety; which in fine involves an alternation of excitement and depression, of delight and despondence, far beyond what belongs to the even tenor of any other occupation: that such a profession should be favorable to long life, would, if true, be not a little surprising. And in order to account for this apparent anomaly, various explanations have been devised, having more or less plausibility, though all falling much short of the object aimed at. It has, for instance, been attributed to the peculiarly philosophical habits of mind induced by the profession, the equanimity and calmness which its duties tended to produce and to foster; a view, which, however applicable to some, is far from being so to all, or even the greatest number. It has also been said that peculiar temperance was the secret of the longevity of physicians—a position which, for the honor of the profession, we should be abundantly willing to admit. Others have thought that the physician, by timely precaution and watching the first intimation of disease, was able to prevent its advancing to any serious extent in his own person; a kind of care which in fact he is less able to exercise than almost any one. And, finally, not a few have thought that the whole secret consisted in the Doctor having the prudence to beware of those doses with which he so liberally supplies his patients. Whatever influence, however, all or any of these circumstances may have in prolonging the life of physicians, it seems altogether unnecessary to resort to them, unless the simple

fact that this profession enjoy a longer reprieve than others from the common doom of mankind, can be made apparent. Such is certainly not the result of inquiry among our medical brethren abroad. We have now before us a very able paper by Professor Caspar, of Berlin, published in the Berlin Medical Journal, which goes expressly to establish the contrary conclusion, and to show that while among divines 42 out of 100 reach the term of three score and ten, and among members of the legal profession 29 out of 100, the proportion of medical practitioners who attain that age is but 24 in 100, or less than one-fourth!

In order to furnish data on which to found just conclusions in regard to this matter, Professor Caspar has ascertained the period of decease of 624 individuals of the medical profession in Germany, and therefrom has constructed a table on the following principle. The table consists of four columns. The first contains a series of numbers,

A. Age.	B. Deaths.	C. Living.	D. Probable Life.	A. Age.	B. Deaths.	C. Living.	D. Probable Life.
23	2	624	35.4	58	10	317	11.0
24	1	622	34.4	59	17	307	10.6
25	4	621	35.4	60	12	290	10.3
26	3	617	33.0	61	15	278	9.7
27	7	614	32.0	62	14	263	9.0
28	5	607	31.4	63	19	249	8.8
29	5	602	30.1	64	20	230	8.5
30	5	597	29.8	65	11	210	8.0
31	11	592	28.6	66	18	199	7.5
32	8	581	28.0	67	6	181	7.2
33	11	573	27.6	68	16	175	6.5
34	11	562	26.8	69	9	159	6.0
35	8	551	26.0	70	17	150	5.5
36	7	543	25.5	71	11	133	5.4
37	8	536	24.7	72	15	122	5.0
38	14	528	24.0	73	14	107	5.0
39	8	514	23.5	74	13	93	4.7
40	9	506	22.7	75	10	80	4.6
41	11	497	22.0	76	9	70	4.4
42	6	486	21.3	77	8	61	3.9
43	8	480	20.3	78	10	53	3.3
44	8	472	19.7	79	4	43	3.0
45	11	464	19.0	80	11	39	3.0
46	4	453	18.2	81	6	28	4.0
47	14	449	17.3	82	3	22	4.0
48	11	435	16.7	83	3	19	4.0
49	12	424	16.0	84	2	16	4.0
50	13	412	15.4	85	3	14	4.0
51	8	399	15.0	86	2	11	3.5
52	11	391	14.2	87	—	9	2.6
53	10	380	13.5	88	2	9	2.0
54	18	370	12.8	89	4	7	1.5
55	14	352	12.6	90	1	3	0.5
56	13	338	12.4	91	2	0	0
57	8	325	11.9	92	—	0	—

commencing with 23, the earliest age at which any decease is reported to have taken place, and extending to 92, which period no one of the 624 was destined to survive. The second column contains the number of deaths which took place at each of these ages, the sum of which completes the number 624. The third represents the survivors after the successive subtractions of the deaths, and the number in it go on diminishing from 624 to zero. The fourth represents in numbers the probable duration of life at each age, as deducible from the facts furnished by the table itself. The mode in which the numbers in this column are ascertained, is perfectly simple. It is done merely by counting off the number of lines to the period at which the survivors at the age in question, are reduced to one-half. For instance, at 25 the substractions have already reduced the number to 621. One half of this number is 310 1-2. In looking along the table we observe that the nearest number above this, viz. 307, corresponds to the age of 59 years, that is, at the age of 59 years, the survivors at 25 are already reduced to one-half. Of course the age of 59 is that which the physician at 25 has an equal chance of attaining. In general terms, if m be the number of persons who have attained the age a, and at the age n the number is found to be reduced to $\frac{m}{2}$, n will express the probability of vital duration, and $n—a$ the number of years on which the individuals m may calculate. "Of course," says the Professor, "nothing can be predicated from the table respecting the probable duration of the life of any individual; but the general conclusions, as experience has proved, are nevertheless extremely certain."

We have already alluded to the calculation made by Professor C. respecting the comparative chances of life among physicians, jurists, and theologians. The latter table will show more particularly how the account stands between the first and last of these professions.

Ages.	Deaths.	
	Physicians.	Divines.
23 to 32	82	43
33 — 42	149	58
43 — 52	160	64
53 — 62	210	182
63 — 72	228	328
73 — 82	141	255
83 — 92	30	70
	1000	1000

14. *Effects of Iodine.*—By Dr. Graves, of Dublin.—"If it be true," says Dr. Graves, "that mercury may be made to affect the mouth more rapidly by means of giving sulphate of quinine to the patient during or after its use, as has been asserted by Doctor Harty of Dublin, there must be some remarkable difference between the effects of sulphate of quinine and iodine on the animal economy, a difference well worth investigating, inasmuch as these remedies are usually con-

sidered very similar in their mode of action, and are often ordered indifferently in the treatment of chronic diseases, such as scrofula. As Dr. Kluge observes, the modifying powers iodine exerts on the action of mercury, opens a new field of inquiry in the treatment of the venereal disease, and renders it an object of great interest to discover to what species or stages of syphillis one or both of these remedies is adapted.

Doctor Kluge's experiments are of particular interest, when viewed in combination with the great encomiums recently bestowed in France and in London on the efficacy of iodine and deutiodide of mercury in the cure of syphilis and various other diseases. We have seen that two remedies, usually classed together as tonics, differ most materially in their effects, sulphate of quinine and iodine. The former stops the paroxysm of ague and induces salivation; the latter does not stop ague, and checks mercurial ptyalism. Again, when during a course of iodine, the patient becomes subject to pain in the stomach; this, as Lugol has shown, is best remedied by sulphate of quinine!

What are the therapeutical relations of another tonic, arsenic and iodine?—The former certainly exerts a powerful influence in controlling ague, and I have seen it produce salivation. Would iodine be useful in guarding against or mitigating its occasional bad effects?—If experience answered in the affirmative, no greater boon could be conferred on the practitioner, who would then be enabled to use long-continued arsenical courses in lepra, psoriasis, and various other diseases of the skin, without fear of producing unpleasant or dangerous effects on the constitution."

In this brief passage there is much to give us pause. Dr. Graves has founded some curious conjectures on more curious statements. Our business is chiefly with the latter.

Dr. Harty, of Dublin, would seem to have asserted, that sulphate of quinine, given before or after the exhibition of mercury, accelerates the affection of the mouth by the latter. That this is opposed to common observation is merely an obvious truism. The experience of all surgeons and physicians has shown them that measures of depletion always augment the influence of mercury. Bleed a man and keep him low, and mark how soon salivation is effected. Reasoning would lead the reflecting practitioner to suppose that converse circumstances would produce the opposite effects. And facts appear to warrant the suggestions of experience and judgment. We suppose it will be granted that few situations afford more ample opportunities of watching the effects of mercury than the wards of a Lock Hospital. Observation in those wards does not confirm the ideas of Dr. Harty. If a patient is weak, he is ordered the sasaparilla or the quinine, in order that he may *bear* mercury, and not be rapidly salivated by it. Again and again have we given quinine with this view and with the same result. We join issue with Dr. Harty. We maintain that cæteris paribus, quinine tends to prevent and not to produce salivation.

Dr. Graves observes that iodine and quina are usually classed

together as tonics. They may be *classed* together in the schools, but the brittle and unsubstantial junction is like that of Nebuchadnezzar's image, one part iron and the other clay. They may be rivetted—they never can amalgamate.

The best mode of testing the real action of a remedy, is surely to push it to the point of producing injurious effects. Apply this test to iodine and quina. The patient who takes the former grows pale, emaciated, nervous—has flutterings at the epigastrium—a tendency to syncope—a tremulous and frequent pulse. He rallies under stimulants. Is this the action of a tonic? The man who is under the influence of quina displays very contrary phenomena. The tongue is probably loaded—the face is flushed—the head may ache, and fulness in it is experienced—the pulse is full—the vascular system is excited and replete.

In these two series of effects we perceive no resemblance nor any analogy. The obvious deduction from their observation is that, cæteris paribus, iodine debilitates and quina strengthens.

Perhaps Dr. Harty or others may urge that though iodine, pushed to a certain extent, occasions the results we have described, smaller and more guarded doses possess less exceptionable tonic properties. They may probably refer to the instance of opium, which, in moderate quantities, is said to be a stimulant, and a powerful sedative in larger. We cannot allow them the benefit of this analogy, nor the use of this conjecture. We have seen iodine employed extensively, but we never yet saw it act as a tonic. We have indeed seen patients received into a hospital, every circumstance altered in their favor, and iodine given in small doses. Such patients have gained flesh and acquired strength, but we could not avoid entertaining the suspicion that the results were vicious, the experiment deceptive. Even in those instances, the most favorable we have witnessed, the mineral was seldom continued long, without the supervention of unpleasant symptoms. So soon as the beneficial influence of better or of regulated diet, of repose, and of appropriate attentions had worn off, the depressing action of the iodine was more and more apparent.

There is a fallacy attending the operation of remedies like iodine, mercury, &c. which deserves to be adverted to. If they tend to effect the removal of a disease which is wearing down the powers of the patient, they act pro tanto and pro tempore as tonics. This is not unfrequently the case with mercury, which, under ordinary circumstances, undoubtedly displays no tonic properties. Nothing is more common than to see a person affected with secondary, or even neglected primary, symptoms, acquire strength and embonpoint so soon as mercury is properly administered.

Our readers may gather from these remarks that we do not consider iodine a tonic in the fair and general acceptation of the term; nay, we deem the notion pregnant with danger, and lift our voice most earnestly against it. The inexperienced practitioner should know that in using iodine he wields a potent and a deadly weapon. If *he*

employs it as he would a tonic, he will probably find occasion to lament his error.

There are two particular statements to which we shall allude before we close these imperfect observations. The first relates to the success derived from iodine in secondary symptoms. Dr. G. observes that great encomiums have recently been bestowed on it, in reference to these affections, by surgeons in London and in France. Of this we are aware, and had the pleasure of conversing with some who have advocated the remedy in public and in private. We have given it in several cases of node, and in some of cachectic ulceration of the skin and of the throat. We have also seen it frequently exhibited by others. Yet such has been our evil fortune, that we never *saw* it prove of service. It was lately prescribed for a patient with node, in the Lock Hospital. The man took five minims three times daily, and had a meat diet in addition. After the medicine had been continued for ten days or a fortnight, the patient became so debilitated and depressed, that the iodine was instantly desisted from, and brandy and amonia substituted for it. In many instances it has seemed to do neither good nor harm; but in those the dose was small, and the patients had beer and good diet, which might probably counteract any mischeivous effects. On the whole, we feel no confidence in iodine as a remedy in syphilitic symptoms.

The second statement relates to the administration of iodine in cases of mercurial salivation.

Now this is observed under three sets of circumstances. In one, the patient is in tolerable health, and salivation results from a very inconsiderable quantity of mercury. It is said to depend, in such a case, on peculiar individual idiosyncrasy, and possibly the notion is correct.

In a scond instance, salivation is the consequence of mercury, actively pushed for an acute inflammatory malady, as hepatitis or phrenitis.

In a third, salivation is induced by a moderate quantity of mercury, given as a course for syphilis, or for any other disease. In this case, the patient is almost always weak, or his constitutional powers are impaired, or he is kept too low, or his room is warm, or some analogous cause exists. We had under our charge a case which illustrates this position. A female who had drunk great quantities of gin was affected with tubercular eruption, after a primary sore. We put her on the pilula hydrargyri, five grains twice daily, and conjoined with it a diet of animal food. In a very few days she became salivated, and had some symptoms of the mercurial erythismus. We discontinued the mercury of course; but as soon as we thought she could again support it we resumed its exhibition, adding porter to the diet. Again and again the same set of symptoms occurred. It struck us that the stimulus to which the patient had been previously habituated might enable her to bear the debilitating action of the mercury. We directed her to take a glass or two of gin during the day, and imme-

diately a change for the better was observed, and the mercury was taken without inconvenience.

Thus, then, we remark that salivation may result from a small amount of mercury and peculiar idiosyncrasy—from mercury rapidly thrown in for acute inflammation—and from ordinary doses in debilitated patients.

Supposing iodine to possess the power of checking salivation, we apprehend that it would be applicable only to cases of the first description. In the second class, salivation is probably salutary, and, at all events, its speedy arrest would be dangerous, if not destructive. In the third class, salivation is the consequence of weakness and exhaustion, and we need not repeat our reasons for believing that iodine is not the remedy for *those* conditions. Fresh air, good diet, beer, and stimulants, are infinitely more adapted to them.

If iodine has really the virtue ascribed to it, that virtue may be safely and judiciously exerted in instances of salivation dependent upon idiosyncrasy. The cautious reader may hesitate in admitting even this as proved. We can only refer to the assertions of Professor Helmenstreitt, and the corroboration they receive from Dr. Graves. We are irresistibly inclined to acknowledge a degree of doubt.—*Med. Chir. Review.—Boston Med. and Sur. Journ.*

15. *Statistics of Accouchments which have taken place at the Maternité, Paris, during four years.*—From June 1829 to June 1833, there were born 10,742 children. Of this number 10,262 presented the summit of the head; 300 the pelvic extremities; 59 some portion of the trunk; and 30 the face. Of the children born by the head, 9,867 were born at the full period, 30 being brought forth dead. 395 were born before the full term. Of this last number, 34 had not reached the seventh month, and were not, consequently, viable; 89 were born in a putrid state. There only remained, therefore, 278 born before term, which could have lived, and, of these 48 died (one in five or six.) Amongst the 391 cases of pelvic presentations, 238 were at term, and 153 before it. Of the former 7 were born dead, having been for some time dead *in utero*. Of the 231 which remained, 21 were born dead (one in eleven). Of the 153 born before term, 63 were dead at an early period, and 30 were born at a time when they were not viable. Of the 60 viable which remained, 10 were born dead, which gives a proportion of one to six.—*Jour. Des. Con. Med. —Boston Med. and Sur. Journ.*

16. *General Statistics of Births.*—The following account, taken from the *Journal of the Statistical Society of France*, gives a curious scale of the proportion of male and female births in Europe; the result is the more worthy of attention, as it has been drawn from a scale comprising more than 70 millions of births, in which the cases have been meted:—

For every 100 girls born, there are born in Russia 108,91 boys. In the provinces under Milan, 117,61. In France, 106,55. In Holland, 106,44. In Pomerania and Brandenburg, 106,27. In Sicily, 106,-

18. In Austria, 106,10. In Silicia, 106,05. In Prussia, 106,94. In Wurtemburg, 105,69. In the Duchy of Posen, 105,65. In Bohemia, 105,38. In Great Boitain, 104,75. In Sweden, 104,66. Giving a mean proportion of 116 boys for every 100 girls. The two extremes are formed by Russia and Sweden, and the same results have always been observed in the same country.—*Boston Med. and Sur. Journ.*

17. *Treatment of Acute Rheumatism.*—A writer in the Medical Magazine has discarded bleeding in acute rheumatism, and uses a solution of tartar emetic and tincture of digitalis in its stead; the former given every sixth hour in as great doses as the stomach will bear without vomiting, and the latter every sixth hour in doses of from twenty to thirty-five drops. Several bad cases he has found to yield to the continued action of these two articles.—*Boston Med. and Sur. Journ.*

II. ANALYTICAL.

1. *Belladonna in Rigidity of the os tincæ, os externum and perinæum, in parturition.*—Our attention has been directed to this subject, by an anonymous writer, in the *Boston Medical and Surgical Journal*, who stands forth as the advocate of the extract of Belladonna in these rigidities. It is to be applied to the os uteri, and perinæum, and great relaxation is said speedily to follow. We are disposed to think, that in a majority of cases, copious blood letting, which we have almost always found successful, should precede the application of the extract, which, in general, will be then unnecessary.

2. *Injuries of the head of the Fœtus in passing through the Pelvis.*—Mr. Bradford one of the surgeons of the Manchester Lying-in Hospital, has a paper on this subject (*Lon. Med. and Surg. Jour.*) from which we make the following extracts, as worthy the attention of our practical readers:

"Children, whose heads have suffered pressure in the direction of the occipito-frontal diameter, are frequently born dead, or they die soon after birth, unless the case is properly considered. They are unable to effectually commence the important functions of respiration. The lungs are only partially filled with air by the convulsive sobs which take place. The action of the heart is not free; and if the pulsations in the funis continue, they are labored and oppressed. The countenance is turgid, and of a livid color, and the vessels of the conjunctiva are quite injected with blood. These symptoms fully prove, that the difficulty to commence respiration does not depend upon a mechanical obstruction from mucus in the trachea, but on the injury which the brain has suffered. This organ is in a state of apoplexy, sometimes depending on a very highly congested state of the bloodvessels alone, sometimes on an effusion of blood which takes place in different parts of the brain, and also varies in quantity."

"The pressure applied to the fore and hind part of the head, has a tendency to change the relative situation of many parts of the brain. It forces one hemisphere from the other, which if carried beyond a certain degree, will inevitably produce laceration of the coats of the veins, which pass to the longitudinal sinus; and this danger is increased by the great congestion which exists.

The practice to be adopted, is to bleed freely as soon as possible after the child is born. The funis ought to be divided before it has ceased to pulsate, as no blood can be obtained if this be neglected. If the pulsations in the vessels of the funis have ceased, two leeches must be applied to the temples.

If these means have not been adopted, convulsions generally ensue."

3. *Remedy for Swollen Breasts.*—Dr. Ranque, a continental physician, (*Dublin Journal*) has recommended for this common malady, the composition in the following extract:

"The swelling of the breast which precedes the formation of mammary abscess, is caused in the first instance by the retention of the milk and the consequent distention of the lactiferous ducts. But this is not the only cause of the local derangement that so speedily follows, for the vascular system of the mammæ is wonderfully increased preparatory to and during lactation, and, therefore, when this augmented circulation of the breasts is baffled in the performance of its proper function, the secretion of milk, it often tends to form with great rapidity vicarious and unhealthy products. Hence arises the obstinacy of many such cases, and hence they are frequently not found to be amenable to the common methods of treating local congestions or inflammations. All practical men are consequently obliged to adopt various methods of treatment, and the skilful accoucheur is often enabled by attention and pains to save his patient from the suffering accompanying such affections. Ranque, impressed with certain theoretical ideas

which it is unnecessary here to discuss, was led to the use of the following liniment:—

℞. Extracti Belladonnæ, ℈ ii.
Aquæ Laurocerasi, ʒ ii.
Ætheris Sulphurici, ʒ i.
Ft. Linimentum.

This must be well shaken before it is used. It is to be rubbed into the breasts as high as the axillæ, morning and evening, and the breast must be then covered with fine flannel soaked in the liniment. This proceeding must be repeated every day, until the swelling disappears, which is usually on the second or third day. The æther has a smell which to some is very disagreeable, but they ought to bear this inconvenience if possible, for it adds essentially to the efficacy of the remedy."

4. *Virtues and proximate elements of Ergot.*—Dr. Hooker, of New Haven, in the Boston Journal, announces that he has discovered in this article, an oil which possesses narcotic properties, and does not, in the slightest degree, promote the uterine contractions in parturition. Without attempting to cite his proofs, we may state that he disapproves of the use of Ergot in substance, and lays down the two following rules:

1. *The ergot should always be exhibited in the form of a watery infusion.*
2. *A large quantity should not be exhibited in any case—the infusion of twenty-five or thirty grains, in divided doses, being abundantly sufficient.*

In an obstetrical practice of some extent, we have seldom found it necessary to resort to this article, and are strongly inclined to believe, that in most cases in which it has been given, a patient waiting would have been preferable.

5. *Cotton instead of lint for surgical uses.*—It has been objected to cotton as a surgical dressing, that it is too irritating; but a late French writer (*Boston Journal*) speaks on this subject in the following language:

"On more than one occasion the attempt has been made to replace lint in the dressing of wounds, by a substance more easy of access of a less price, and less susceptible of acquiring injuries. We have already in this journal directed the attention of surgeons and of the

managers of hospitals to the charpie of hemp, the use of which ought already to have been more general in the army and in temporary hospitals. We shall now attempt to describe the properties of cotton as a dressing. Cotton, which like lint is a vegetable substance, has the advantage of being lighter, and is so abundant as to be sold at a very low price. It is easily applied, without previous preparation, in thin and equal flakes. By doubling the usual flake, we obtain at pleasure two soft surfaces, like the English lint, and which may be applied to the same uses as this tissue. Once in place, the cotton is not subject to disturbance, and remains attached on wounds and ulcers, even of the face, without its being necessary to sustain it by means of bandages or plasters. Lastly, it has more elasticity than lint, and preserves this precious property in a variety of circumstances, and even when it becomes damp. It is indeed objected to it, that like wool, it is full of points and motes, which render it irritant and injurious; but by applying a few filaments of it under the eyelids, on a fresh wound, a burn, or blister, it will easily be seen what becomes of these asperities. The opposite objection has also been made, namely, that the cotton did not excite granulations, but produced an imperfect pus, by furnishing an insufficient stimulus. This objection is as ill founded as the last; and to be convinced of it, we need only try a few experiments, which are equally free from expense and from danger.

"In regard to economy, a simple comparison of the relative prices of lint and of cotton will make this truth evident. Fine lint for equal weight costs more than cotton of prime quality; but the difference in volume is such, in consequence of the specific levity of the latter, that a quarter of a pound of the one equals a pound of the other, and that with equal weights the cotton will cover a surface four or five times more considerable than the other. Still more, cotton being applicable to a variety of purposes, and capable of being cleansed perfectly by chemical processes, that which has already served for dressings will command a considerable proportion of its former price, which cannot be said of lint."

6. *Treatment of dry Ears, with partial Deafness.*—Dr. W. M. Coates, (*Bost. Journal,*) has some practical observations, on a common but perplexing form of disease in the meatus externus, which are worthy of attention. After speaking of a deficient secretion of the *cerumen* of the ear from a common cold, which he remarks is removable by a pediluvium and a warm bed, he goes on to say—

"But there is a dry state of this part strictly local, and which has always appeared to me to have arisen from an indolent state of the ceruminous glands. The symptoms are more or less deafness—sometimes to a great degree. When the patient happens to catch a sound, it is sharp, and causes unpleasant noise in the ears for some time after.

On examining the part the cubicular lining is white, and quite destitute of the ordinary secretion. The following case illustrates pretty well the affection, and the mode of treatment which I have found most successful:—

"Charlotte Osborne, aged 22, has been deaf nine months, the complaint having gradually arrived at its present intensity. Present symptoms, May 14, 1833: very deaf of both ears, but more particularly so of the right. Of a costive habit; tongue white and dry; of heavy aspect, and inattentive behaviour. Left ear quite destitute of cerumen; the right has rather more than its usual proportion. Her ears were syringed with soft soap and moderately warm water; and she was ordered—Pilulæ Hydrargyri, gr. iij. omni nocte. Magnesiæ Subcarbonatis, gr. viij.; Rhei Pulveris, gr. x. omni mane.

May 19th.—Tongue clean and moist; bowels freely open. The left ear is evidently worse; the right is improved somewhat. Having syringed both ears, I applied, by means of a small camel's hair brush, to the left membrana tympani, a very minute portion of the following ointment, rendered soft by the admixture of a little almond oil. Unguenti Hydrargyri Nitratis Diluti, ʒj.; Unguenti Cetacei ʒiij. Misce.

21st.—Has had some slight pain in the left ear, but can hear much better with it; the right continues to improve. The ointment to be applied to the left membrana tympani every other morning.

July 28th.—She has continued this treatment ever since. She has become of ruddy complexion, lusty, and lively in her behavior. She expresses herself as hearing as well as she ever did.

I must observe, that the cure was retarded considerably by a severe cold caught during the latter part of the treatment."

The following affection, although less frequent than the preceding, is more obstinate.

"There s another species of deafness, differing in its cause from the above, but very often mistaken for it. It arises from a faulty secretion from the ceruminous glands, and occurs now and then with, or alternating with, strumous ophthalmia. In these cases there is a good deal of irritation and noise in the ears. On examination of the external meatus there is no deficiency, but occasionally an unnatural dingy color of the cerumen. This affection occurs ordinarily in persons accustomed to unwholesome food, and destitute of the common comforts of life. As the causes can seldom be removed, we treat the disease under very unfavorable circumstances; however, I have generally succeeded in curing this affection for the time being, but on the patient returning to his old habits, like all scrofulous complaints (for I believe this to be almost always dependent on a scrofulous diathesis,) it generally re-appears.

The first indication is to correct the secretions from the bowels, which are generally of an unnatural character, by mild mercurials; I generally use the hydr. c. creta in small and repeated doses. The

second, to diminish the irritability of the secreting membrane; this I do by the application of a solution of the argenti nitras, in the proportion of one grain to the ounce of distilled water.

7. *Acetate of Lead in diseases of the Mucous Membranes.*—An anonymous writer in the *Boston Journal*, has the following observations on the powers of this preparation of lead, in certain morbid states of the mucous membranes. We are the more disposed to present them to our readers, from having, at this moment under our care, a dysenteric patient, who is deriving great advantage from the acetate of lead and opium, after all the ordinary remedies had entirely failed.

"The most important known property of lead is its power to relieve certain kinds of inflammation and irritation of the mucous membranes, accompanied by profuse or otherwise morbid secretions. It seems to have a specific operation upon the capillary vessels, removing congestion, allaying excitement and disordered action, and restoring the balance between the secernent and absorbent vessels. It reduces frequency and hardness of pulse when dependent upon this state of the tissues, particularly the mucous tissues, calms the system and quiets febrile irritation. It does not seem to have any very positive direct action upon the sanguineous system; hence it may be used in quite different states of this system. It may be employed in chronic, acute, and subacute diseases, when the case is appropriate. I have employed it in several cases of acute typhoid pneumonia, particularly in its second stage, accompanied by profuse muco-sanguineous expectoration, distressed respiration, frequent, irritated pulse, hot or sweaty skin, &c., sometimes with very remarkable success. In such cases it should be employed very freely, say from two to five grains every two or four hours, in combination with opium. Generally the teeth and gums become of a leaden color after using it thus freely twenty-four or forty-eight hours, which is as long a time ordinarily as is necessary. In chronic, irritative coughs, without secretion from the membrane of the lungs, and in coughs attended with copious secretion, I have found it an invaluable remedy, combined with opium, or opium and ipecac. It is an important remedy in diarrhœa and in the second stage of dysentery. I have tried it in one case of epidemic cholera with very unexpected success, after the failure of every thing else on which I had been accustomed to rely. The case was not one of the most rapid, but was of a kind which was generally found very unmanageable. It was attended by profuse, frequent, and exhausting rice-water discharges from the bowels, with occasional vomiting. A drachm of sugar of lead was given. It vomited and purged my patient actively, and speedy convalescence was the consequence. I have resorted to it occasionally, as an internal remedy, in gonorrhœa, with the best effects. It is believed it very rarely produces poisonous

effects when used as a medicine; at least, it has never done so in my practice, though it has been commonly combined with opium, which is supposed to be an antidote to such effects.

8. *The Viola Ovata a remedy for the bite of the Rattlesnake.* Dr. S. W. Williams, of Deerfield, Massachusetts, on the authority of Dr. Wells of that state, has recommended this plant for the purpose above announced. It is the *Viola primulifolia* of Pursh; and described by Nuttall in the following terms:

"Leaves ovate, subcordate, crenate, rather acute, often lacerately toothed at the base; equally and for the most part conspicuously pubescent on either side, petiole marginated; scape shorter than the leaves; segments of the calyx subciliate; petals obovate, the two lateral ones bearded. On dry land. Flowers bright blue; flowers in April and May."

The following extract will present our readers with the results of Dr. Wells' observation and experience.

"Many years ago rattlesnakes abounded in the vicinity of this place. Since the land is cleared, they are rarely to be seen. Our old people were in the habit of using this violet for their bites. They generally know it by the name I have designated. The venerable Henry Wells, M. D., late of Montague, successfully employed it in these cases. To his statement respecting it I wish to draw the attention of physicians. He was called to a patient who was bitten by a rattlesnake, and who was laboring under all the symptoms of a diffusion of the venom. His body was enormously swollen, respiration laborious, and his skin livid. He immediately directed a strong infusion of the rattlesnake violet, and constantly bathed the wound and body with it. In a few hours the tumefaction subsided, the febrile symptoms abated, and the patient was considered nearly out of danger. He retired to rest, and left directions with the nurse to give the violet tea often during the night. The patient continued so much better that the nurse became negligent, and omitted the directions, and fell asleep. From this suspension of the remedy the patient relapsed, and the febrile symptoms returned, and the body was swollen like a puff-ball. The doctor was called, and again directed the remedy as before mentioned: the symptoms yielded, and from a continuance of the remedy two or three days he completely recovered without the use of any other means."

9. *Dropsy cured by the Hydriodate of Potash.*—It appears from the London Medical and Surgical Journal, that Dr. Blake and

Mr. Hughes of England, have lately cured several inveterate cases of ascites and anasarca with this medicine. Some of them were apparently complicated with disease of the liver from intemperance. It operated as a diuretic, and is moreover thought by Mr. Hughes to have a specific and salutary action on the liver. In one case which is reported—

"The abdomen was exceedingly large; the scrotum, legs, thighs, and arms, and integuments of the chest and back, were likewise very much swollen, so much so as to preclude the possibility of his bending the elbow to put his hand to his head. He then commenced taking the hydriodate of potass, in ten grain doses, three times a day, in a glass of water, gradually increasing the quantity to fifteen grains, which he continued to the 10th of March, with very marked benefit. The appetite and strength increased, and he was soon able to leave his bed and walk down stairs, owing to the decrease of the general swelling, which was accompanied by a proportionate increase in the quantity of urine. He omitted the hydriodate from the 10th to the 18th of March, in consequence of the intensely bitter taste he experienced, but the moment he did so the strength and appetite decreased, while the other symptoms became worse. He then recommenced this medicine with equal good effects, and continued it up to the 30th of April, when he again omitted it, thinking himself so nearly well, and on account of the disagreeable taste it left in the mouth. He, however, again found it necessary to resume its use on the 18th of May, and continued it to the 1st of June, with progressive improvement in every respect."

10. *Professional underbidding in the West of England.*— Should any one doubt our English origin, we might refer to to an article in the London Medical Gazette, on the state of the profession in the West of England, to prove that many of the physicians in the Valley of the Ohio, have descended from that celebrated nation. The picture which it presents of underbidding labors for the acquisition of business, would apply with some little variation, to certain members of the profession even here, within the dominion of the boasted Queen of the West! We shall give an extract which may serve to keep some of our brethren in countenance. It is from the pen of Mr. Tomkins, surgeon in Yeovil.

"Parishes are usually let by tender, and the lowest bidder generally gets the appointment to take charge of them. The low rate at

which persons are found to accept them is truly disgraceful to the members of a respectable profession. I will name a few particular itstances to prove the fact; assuring you, at the same time, I could cite a hundred similar ones. The parish of East Coker, Somerset, containing upwards of 1400 persons, the majority of whom are paupers, is attended by a practitioner—a Mr. Hansard, of Montacute—residing four miles from the place, at a salary of 12*l.* per year; and for this sum he includes all medical and surgical cases, accidents of every description, small pox, inoculation, or vaccination, and difficult midwifery cases, together with attendance on coroners' inquests, lunatics, &c. Mr. Hansard stipulates to attend regularly at the poor-house three times a week, independently of all other calls; and, on a moderate calculation, his turnpikes must cost him at least three pounds in the twelve months; such being the usual terms of agreement where parishes are compounded for. The parish of East Chinnock is attended by a practitioner—a Mr. Gerrard, of Crewkerne—residing five miles distant; who compounds for all cases at 8*l.* per year. The population is about 1000, and by far the greater number are paupers. Mr. Gerrard has to pay two turnpikes every journey he takes. The parish of Piddle-Trenthide, Dorset, is attended by the Messrs. Davis, of Cerne, residing at a distance of four miles, at a salary of 10*l.* per year. The population is upwards of 800. The sum paid for medical and surgical attendance on the poor of the same parish, in the year 1814, was 70*l.*; but owing to the disgraceful system of letting by tender, it has been reduced to the sum above stated. The parish of Stoke Sub-Hampdon, Somerset, is attended by a Mr. Westcott, of Martock, residing two miles distant, and he compounds for every case that may occur, agreeing to find medicines and surgical instruments, at a salary of 8*l.* per year: the population is upwards of 1600. There are a vast number of paupers at Stoke, and they are very liable to serious accidents, in consequence of their being employed to quarry and hew stones, which are used in almost every building of consequence within twenty miles of the place. The parish of Norton Sub-Hampdon consists of a population of 800 persons; the paupers are numerous, and generally employed at the stone-quaries; the poor are attended by a Mr. Stuckey, of Martock, who compounds for all cases at a salary of 5*l.* per year: the distance of Norton from Martock is three miles. Chisselborough, a parish four miles distant from Martock, is also attended by Mr. Stuckey, and every thing compounded for at 5*l.* per year: there are seven or eight hundred people, and the paupers are principally employed at the Hampdon stone-quarries."

All this would seem incredible, but it is avouched by five gentlemen of Mr. Tomkins' neighborhood, the whole of whom, like himself, are members of the Royal College of Surgeons, and appear before us, therefore, as respectable and credible witnesses.

The following anecdote, related by Mr. T., is calculated to remind many of us, of cases in which we have been compelled, not merely to give our professional services gratis, but actually to advance money for the support and comfort of our patients.

"I cannot here omit to mention one fact, which, some time since, happened to a respectable surgeon in this neighborhood. He was sent for to a poor man who had met with a very serious accident, and on his arrival found him by the road side. He directly said, "I can do nothing for the man here, you must take him to the inn;" which was near the spot, and in the parish where the injury was received. The accident was such that the surgeon was obliged to attend to it without delay, and the man remained at the inn many weeks afterwards, before he could be removed to a distant parish, where he belonged. After his recovery, the surgeon sent his bill to the overseers of the parish where the accident happened, and they resisted payment, as they had not given an order. The surgeon then applied to the parish where the man belonged, and they also resisted payment; pleading that they were not liable, as they had given no order to the medical attendant, and the accident happened in another parish. The surgeon found, that as he had acted without an overseer's order, he could not recover his charges by law, and the individual himself was unable to pay him. This, however, was not all; the innkeeper was refused payment by both parishes for the keep, attendance on, and nursing this pauper; and not being in a situation to lose his expenses, he naturally inquired who sent the man to his house; and finding that the surgeon had ordered him there, and given directions for his food, nurses, &c., he actually brought the charge on him, and the surgeon was compelled to pay the whole expense."

The medical is, perhaps, the only profession, except that of the itinerant show-man, which may not be expurgated of quackery, to a tolerably decent degree. Credulity, parsimony, love of mystery, admiration of impudence, a desire to be imposed upon, and a suspicion of every thing which belongs to regular science, are principles too deeply rooted in the human mind to be easily eradicated; and while *they* are in operation, we shall see empyricism prosperous, and the dealers in low charge, preferred to those, who place their skill and services at such prices, as will give them honorable recompense, for the days and nights of protracted and anxious study, which are necessary to successful practice.

11. *Belladonna in Pertussis.*—In the *Amer. Journ.* Dr. Jackson of Northumberland, has published the results of some recent trials with the extract of Belladonna, in hooping cough. They are highly encouraging. This powerful antispasmodic, repeatedly given in pertussis by the physicians of Germany, has been but seldom employed in the United States. We hope the experience of so respectable a practitioner, as the gentleman whom we are about to quote, will incite others to the use of this medicine, in one of the most refractory of the diseases to which our children are liable. The following course of preparation will in general be required.

"If any one then shall condescend to try this method of curing hooping-cough, let him first remove the greater part of the inflammation by bleeding, laxatives, low diet, nauseating doses of tartar emetic, and an abundance of milk-warm linseed tea. Bleeding and blistering may be necessary at the onset, and even in the progress, if inflammation supervene as it is very apt to do upon weak or unsound lungs. Leeching or cupping may often be more suitable, nor can it require much medical acumen to determine on this point. But many cases will occur in which the belladonna may be given almost from the first, at the same time that the above-mentioned antiphlogistics are in use."

The extract of belladonna is often adulterated or effete. Its activity may however be easily tested, by dropping a little of the solution into the eye, or even rubbing it over the lids, as the well-known dilatation of the pupil will ensue, if the medicine be good. We should remark, however, that this dilatation is much earlier, wider, and of longer continuance, in some eyes than others.

"Suppose then, that the system is well prepared for the belladonna, and that you have some which is certainly of good quality; let the extract be triturated with water, to which, in order to prevent fermentation, add a suitable proportion of proof spirit; give this to a child three months old in such doses every three hours, from sunrise till bed-time; that each dose shall contain one-sixth of a grain of the extract; to a child of two years old a full grain may be given; to one four years a grain and a half, and from these data the medium dose for any age can be easily ascertained. But with respect to the dose, it is certain that we know but little, as our experience has been very limited, and the strength of extracts is very uncertain.

The effects on the system must be carefully watched, and as soon as

dilatation of the pupil takes place, the medicine must either be omitted altogether, or given in much smaller doses. We consider it as far the safest to give no more until we may be satisfied that the effects of the first exhibition are beginning to pass off. The reason of this is too evident to the regular practitioner, and others must take the fact, if they are not capable of the reasoning.

As soon as the system begins to rise from under its influence, which may be known in the infant by the state of the pupil, let it be resumed, and given in larger doses than before, so as to make a strong impression. It is now that its powers become apparent, but the dose must be increased, for, like conium, its effects on the system diminish most wonderfully in proportion to the doses administered. The disease will now begin to yield, and how much longer the medicine is to be continued, or what coâdjuvants may or ought to be used, let every judicious physician determine for himself, when the case with all its necessities are before him. We are not writing a treatise on the subject of pertussis, but merely endeavoring to show the great and almost incredible power of a single medicine therein.

12. *Ununited Fracture successfully treated by friction of the ends of the bones upon each other.*—Our experienced and respected friend, Dr. Parish, has published in the journal just quoted, a case of this kind. It was a fracture of the humerus, of several months standing, in which the muscles were greatly relaxed. By pressing the arm firmly, the oblique surfaces were found to slide and grate upon each other. This process was repeated for a number of days, when ossific inflammation was excited, and a union of the bones took place.

13. *Neuralgia of the face successfully treated by Galvanism, applied in the manner recommended by Mansford.*—Dr. Harris, of Philadelphia, in the periodical just quoted, has given an account of several cases of this kind, drawn from his own practice, of which the following is one:

"In May, 1834, Mr. T. W. of Maryland, consulted me in a case of neuralgia of the head and face of eighteen months continuance. He had been under medical treatment during the whole of this period, but could not state the names or nature of the medicines which he had taken. His pain was very acute; his nights were sleepless; his digestive functions much impaired, with obstinately constipated bowels. His extremities were cold, and his head inordinately hot. A few ounces of blood was taken from the back of his neck, aperients were given to regulate his bowels, and his feet were placed nightly in a mustard foot-bath. On the third day the galvanic apparatus was

applied, and was continued two weeks before any mitigation of the pain was observed. At the expiration of five weeks the patient was entirely relieved of his neuralgia, and his health in every particular entirely restored. Within a few days he has returned to his native state in fine health and spirits.

As many of our readers may not possess Mansford's book on Epilepsy, which contains the mode in which he directs the galvanic apparatus to be employed, we shall transcribe it:

"It was said, that in order to fulfil the indication stated at the commencement of this section, it was desirable to establish a negative point as near the brain as possible, and a positive one in some distant part of the body. Accordingly, a portion of the cuticle of the size of a sixpence being removed by means of a small blister on the back of the neck, as close to the root of the hair as possible, and a similar portion in the hollow beneath, and on the inside of the knee, as the most convenient place: to the wound in the neck, a plate of silver, varying according to the age of the patient, from the size of a sixpence to that of a half-crown, was applied—having affixed to its back part a handle or shank, and to its lower edge, and parallel with the shank, a small staple, to which the conducting wire was fastened. This wire descended the back till it reached a belt of chamois leather, buttoned round the waist—it then followed the course of the belt, to which it was attached, till it arrived opposite the groin on the side it was wished to be used; it then passed down the inside of the thigh, and was fastened to the zinc plate in the same manner as to the silver one. The apparatus so contrived was thus applied:—a small bit of sponge moistened in water, and corresponding in size to the aperture in the neck, was first placed directly upon it—over this a larger piece of sponge of the same size as the metalic plate, also wetted, was laid—and next to this the plate itself, which was secured in its situation by a strip of adhesive plaster passed through the shank on its back, another above, and another below it. If these be properly placed, and the wire which passes down the back be allowed sufficient room that it may not drag, the plate will not be moved from its position by any ordinary motion of the body. The zinc plate was fastened in the same manner—but in place of the second layer of sponge, a bit of muscle answering in size to the zinc plate was interposed: that is, a small bit of moistened sponge being first fitted to the aperture below the knee, the piece of muscle also wetted then followed, and on this the plate of zinc. The apparatus thus arranged will continue in gentle and uninterrupted action from twelve to twenty-four hours, according to circumstances. This last is the longest period that it can be allowed to go unremoved: the sores require cleaning and dressing, and the surface of the zinc becomes covered with a thick oxide, which must be removed to restore its freedom of action; this may be done by scraping or polishing: but it will be better if removed twice a day, both

for the greater security of a permanent action, and for the additional comfort of the patient."

14. *Rice the cause of Epidemic Cholera!* We are happy to learn by the journals, that a Dr. Tytler, a "graduate of the University of Edinburgh and a surgeon in the service of the East India Company," has at length discovered the cause of epidemic Cholera, which proves to be nothing more nor less than RICE—diseased rice of course, or it would not excite the Cholera. It was reserved for the Medical Society of London, to be the recipients of this important discovery; and it must have been edifying, to observe the members of that learned association, night after night, engaged in discussing the merits of this new revelation on the cause of Cholera. To us, who live on the banks of the Ohio, instead of the Thames, and grope our way in the woods, the whole matter smacks somewhat of the diverting; but this arises no doubt from not understanding what ought to occupy the time of an assembly of *London* doctors.

We shall not undertake to lay before our readers, the various facts on which this sapient "graduate of the University of Edinburgh," rests his hypothesis; but would advise our readers to rely, as we ourselves do, on what all the world knows, that the discharges in Cholera are rice-water, which, of course, they could not be, if rice had not been eaten. This fact of itself would seem to be sufficient; but if it is not, we fear the doctor's hypothesis will fall to the ground. If any one should ask how it happens, that persons who never taste rice get the Cholera; why it becomes epidemic at the same time over extensive tracts of country, suddenly appearing and disappearing, while the consumption of rice remains stationary; or why the disease has broken out *progressively* from India to Mexico, we must refer them to Dr. Tytler and his partizans in the London Society, who no doubt would be pleased to clear up their difficulties and dissipate their incredulity.

15. *Origin and Nature of the Meteors of the 13th November, 1833.*—In our 27th number, we gave a detailed historical account of these meteors, not venturing on a single speculation concerning their origin or nature—matters that belong to the science of physical astronomy, which we do not cultivate. Among the most interesting of the accounts which we then embodied, was that of the learned professor Olmsted of Yale College. In the April number, for the present year, of Silliman's American Journal, a work which does honor to our country, we observe an elaborate paper by the same ingenious professor, on the source and constitution of those shooting stars. Without attempting its analysis, we shall present our readers with the conclusions to which that gentleman has come; omitting the facts and reasoning by which they are supported:

1. "The meteors of November 13, (1833) had their origin beyond the limits of our atmosphere."

Of this we think there can be no doubt. The reader must not confound the place of *origin*, with the place of *luminous exhibition*.

2. "The height of the place whence the meteors emanated, above the surface of the earth was about 2238 miles."

Notwithstanding the apparent precision of this statement, which presents the mean term of several estimates, it must be considered as nothing more than an approximation to the truth.

3. "The Meteors fell towards the earth, being attracted to it by the force of gravity."

4. "The Meteors fell towards the earth in straight lines, and in parallel directions, which within considerable distances, were nearly parallel with each other."

It must be recollected that parallel lines seen in very distant perspective, appear at last to unite in a focus, and such was the spot in the heavens from which the shooting stars seemed to radiate. It was near the constellation Leo.

5. "The Meteors entered the earth's atmosphere with a velocity of about four miles per second."

This would be the velocity they would acquire in falling, from a state of previous rest in reference to the earth, to the limits of the atmosphere, 50 miles from its surface, as determined by calculation.

6. "The Meteors consisted of combustible matter, and took fire and were consumed in traversing the atmosphere."

Hence while their origin was beyond the atmosphere we only saw them within it. Their combustion was matter of observation. They were probably ignited by the compression they exerted on the air, forcing out its caloric in sufficient quantities to ignite them. That they were consumed was matter of pure observation for many of them disappeared in luminous clouds which were wafted by the wind, and none of them were seen on the surface of the earth.

7. "Some of the Meteors must have been bodies of great size."

8. "The Meteors were combustible bodies and were constituted of light and transparent materials."

Their combustibility was demonstrated by their burning. If they had not been light they would have made their way like ærolites, through the atmosphere to the surface of the earth. If they had not been transparent they would have been visible, or rather the cloud or nucleus from which they were detached, would have been visible, at the height of 2 or 3000 miles, by reflecting the light of the sun.

Professor Olmsted goes on to consider the question whether the mass from which the meteors were detached, belonged to and revolved round the earth, and comes to the conclusion, from its occupying one spot in the heavens for several hours, while the earth was rotating, that it was not a satellite. He is also convinced, that it could not have been at rest and approached, on the 13th of November, by the earth, as such a body could not have remained at rest within the solar system; nor could it have been in motion, in a different direction from that which the earth was moving, as they would soon have separated—seeing, that in the eight hours during which the meteoric shower lasted, the earth moved in its orbit

through the space of nearly 550,000 miles. Hence he comes to the conclusion, "that the body was pursuing its way along with the earth round the sun;" and from other considerations arrives at the further conclusion, "that it revolves round the sun in an illiptical orbit; but little inclined to the plane of the ecliptic, and having its aphelion near to the orbit of the earth." In regard to its periodic time round the sun, he thinks from the best data within his reach, that it is "nearly six months, and that its perihelion is a little below the orbit of Mercury." Thus he regards it, in fact, as a comet, and concentrates his opinions of its astronomic relations into the final proposition—

"That the Meteors of November 13th, consisted of portions of the extreme parts of a nebulous body, which revolves round the sun in an orbit interior to that of the earth, but inclined to the plane of the ecliptic, having its aphelion near to the earth's path, and having a periodic time of 182 days, nearly."

Believing as we constantly have, that these meteors were not of atmospheric origin, we take pleasure in presenting to our readers, but few of whom, we suppose, will meet with Professor Olmsted's paper, the results of his scientific and ingenious inquiries into this *luminous* but *obscure* phenomenon.

16. *Present state of our knowledge of Electricity.*—In a late article on *imponderable agents* we endeavored to show that it is incumbent on all who would study the laws of animal life, to make themselves acquainted with what relates to electricity, galvanism, magnetism, light and caloric, so far at least as to appreciate the influence of these agents upon the living body both in health and disease. Under this conviction, we shall extract from the scientific journal, which contains the paper just evicerated, a short article translated from the French by professor Griscom. It presents the conclusions of professor De La Rive, on the present state of electrical science.

"1st. Two different principles are acknowledged to exist in electricity; the laws of action to which these principles give rise have been determined, both when they are isolated and at rest, and when they are in motion in order to unite. But the nature of them has not yet been determined: nothing has yet been done but to advance hypotheses which are still unsatisfactory,—such especially as that which regards them as very subtle fluids, endowed with certain distinct properties. It is probable that they are rather, both of them, different modifications of the ethereal matter which fills the universe, and whose vibrations constitute light; modifications, the nature of which cannot be known until the most intimate properties of electricity have been more thoroughly studied and ascertained.

"2d. It has been successfully determined that magnetism is only the result of natural electric currents. But what is the disposition of these currents in magnetised bodies? What is the cause which gives rise to them, and what is the reason that a very small number of bodies only is susceptible of the magnetic virtue? These are questions which cannot yet be answered.

"3d. All the sources of electricity are probably at present known; but with respect to the laws which, in each case govern its development, we are still very far from having discovered them.

"4th. The influence which bodies may exert over electricity, either when placed in its track, or interposed between it and the points towards which its exterior action is directed, has been within a short time past, studied with great care. Many curious phenomena, in relation to this influence have been discovered; some laws even have been settled; but the number of anomalies and unexplained effects is still very considerable. It is probable that in the investigation of this class of facts, means may be found of arriving at some notions with respect to the nature of electricity, and the relations which connect this agent with ponderable matter.

"5th. The effects which electricity produces on bodies are now well known; the laws to which they are subjected, are in general well determined; but their connexion with the cause which produces them rests only on hypotheses, which can boast but very little solidity, and which have lately been very much shaken. It is by an inquiry into this connexion by a study in detail of those effects, that we are to find the means of arriving at a more just idea of the nature of electricity, and of the cause of the effects to which it evidently gives rise, as well as which are perhaps erroneously ascribed to it, and which, such as chemical phenomena, have probably no other relation to it but that of being occasioned by the operation of the same agent.

"6th. Finally, after having, from its very origin, framed and demolished theories to account for the action of the Voltaic pile, philosophers are not yet united on that subject, and although at the present time, the chemical theory of this admirable apparatus may perhaps be most in vogue, it still requires the support of further observation to be generally adopted, and definitively substituted for the electromotive

theory of Volta, the unsatisfactory nature of which is now fairly demonstrated.

"This brief recapitulation is sufficient to show that notwithstanding the importance of the discoveries with which electricity has been enriched, that which remains to be done in this part of physical science, is perhaps more considerable than all that has hitherto been done, since almost all its laws and all its principles are still to be discovered."

We hope that such of our western readers as are qualified and inclined to look a little into the curious relations subsisting among the various imponderable agents, and, especially made manifest by the phenomena of what is termed electro-magnetism, will peruse with care the paper of Dr. Locke, of this city, inserted in the first department of our journal. It will not only afford them instruction in this new branch of science, but show them that, with all its obscurities and intricacies, it has found a zealous and successful cultivator in the West. Such of them as may be desirous of possessing one of Dr. Locke's galvanometers, can have it made under his inspection, by applying to him.

III.—ORIGINAL.

The Western Journal.

E Sylvis, acque atque ad Sylvas, Nuncius.

CINCINNATI, OCTOBER 1, 1834.

I.—NATIONAL HOSPITALS IN THE VALLEY OF THE MISSISSIPPI.

In a late number, we penned a few sentences on this subject, suggested by Dr. Campbell of St. Louis, and promised to resume it. The want of hospitals for the reception of those engaged in the laborious, unhealthy, and dangerous navigation of the Mississippi and its great tributary rivers, has long been felt. Impressed with this sentiment, the legislature of Louisiana, about the year 1819, proposed to the Mississippi states, to establish hospitals, in different places, and give to their citizens, in distress, reciprocal admission. But little, as far as we know, grew out of this suggestion. However, the legislature of Ohio, early in 1821, on the recommendation of Governor Brown, followed up by the personal application of the Editor of this Journal, instituted and endowed in this city, the existing charity, denominated the Commercial Hospital of Ohio; and some years afterwards the people of Louisville, aided by the state of Kentucky, established another in that place—provision of a similar kind having, mean while, been made in New Orleans. But these establishments, so far from supplying the

wants of the great valley, have only served to render them more apparent. With the increase of population and commerce, spreading themselves up and down every stream that can float the humblest steam boat, the number of patients has been multiplied a thousand fold, since those hospitals were erected, and the points which call for similar establishments, increased in the same ratio. To comprehend the magnitude of our wants in this respect, we must glance at our actual condition.

The number of inhabitants, dependent more or less upon the Mississippi, as their great channel of communication with the ocean, is about 4,000,000. In descending the river with the produce and manufactures of western Pennsylvania and Virginia, Ohio, Indiana, Illinois, Missouri, Kentucky and Tennessee, to say nothing of Alabama, Mississippi, Arkansas and Louisiana, those engaged in the trade, go from a higher to a lower latitude; and as this commerce is chiefly carried on in the spring, early summer, and beginning of autumn, they are often exposed to great heat, and to all the causes of disease, which heat and moisture, acting on dead vegetable matter, can generate. The casualties of the river, moreover, are numerous and unavoidable—such as boats getting aground, and compelling the boatmen to expose themselves to "fire and water" in the rays of a burning sun and the current of the stream—the snagging and sinking of boats, and consequent lying out at night—the bursting of boilers, and aspersion of steam and hot water, over the crew and passengers—finally, the crash of boats against each other at night, by which the limbs and even lives of those who navigate them are often mutilated or destroyed. In these and other modes of smaller violence, a very great number of sick and disabled persons are constantly floating on our rivers, or left to perish (if nature should not save them) in cabins on the shore. Among these sufferers, are not a few who are persons of consequence to society, and have left respectable families, thus to perish on the river, or beneath the deep forests, which casts their gloomy shadows on the surface of its waters.

Such being the state of the interior, it is undeniable, that both humanity and patriotism call aloud for the establishment of houses of reception and relief, at so many different points, as to permit the sufferers from accident or disease, to be landed in due season, and treated with skill and kindness. We shall not undertake to designate where these hospitals should be placed, or even to suggest the number that are required, as this could only be done by a commission of experienced river traders and intelligent steam boat masters, with whom we shall leave the subject, and proceed to inquire by whom they should be erected.

The benevolent proposal of the state of Louisiana has not been successful; and, indeed, it cannot be expected that any public work, which requires the co-operation of eight or ten states, can be executed, except by the federal government. That government was instituted by the people of the states, expressly to perform such enterprises as would otherwise require the co-operation of several; and it is not, indeed, compatible with the integrity and quiet of the Union, for groups of states to go into special compacts. In this instance, it is true, no harm could come from such a subordinate confederacy, as whatever cements the Mississippi states more closely, tends to hold the Union together; but still it would be a violation of principle, and the general government should prevent such a step, by itself executing the work—we should rather say *national* work. That it would be as strictly and legitimately a national work, as any connected with the seaboard, and having for its object the promotion of the commerce of the country, will be admitted by all who may have the industry to examine it, and the candor to state the result of their inquiry.

We do not need fortifications, artificial harbors, light houses and breakwaters, in the interior, but we want commercial hospitals. Let it not be said, that the trade which renders them necessary, is merely a traffic between the people of the same state, or even of different states. It is a part of the great foreign commerce, exporting and importing, of the Uni-

ted States; and deserves to be fostered by the general government, not less than that which floats on the ocean. The relation between the interior and New Orleans, is not that of mere supply and consumption, but of supply and transmission. The produce of the most productive, if not quite the most extensive valley on earth, is concentrated at the mouth of the river, for shipment and dristribution over the Atlantic states, the West Indies, and the kingdoms of western Europe; and has already been started on the great voyage to distant lands, when it is embarked at Pittsburg, Cincinnati, Louisville, St. Louis, Nashville, or any of the hundred intermediate towns of lesser note.

But why do we confine our observations to the Valley of the Mississippi? The Basin of the Lakes has equal wants in this respect, and the whole should be embraced in one system. The coast, along which an active trade is already carried on, extends from near the eastern end of Lake Erie, to the western shore of Michigan—from Cleaveland to Chicago and Green Bay—embracing the northern frontier of Ohio, Michigan, Indiana and Illinois, and stretching out, when we follow its sinuosities, more than a thousand miles. As this coast is that of inland seas, which separate the United States from a foreign government, it is as much entitled to the fostering care of our own, as that which lies between Portland and Pensacola.

Believing as we do, that the constitution gives the power, we hold that it imposes the duty, of executing without delay, the public works to which we have referred; and we trust, that, as soon as an interlude in the angry drama of national politics may arrive, the federal government will admit this to be among the legitimate objects for which it was instituted, and seriously resolve upon its execution.

Mean while our readers in the great valley, (intelligent and numerous enough *of course* to exert a commanding influence on its representatives,) will, we trust, bestir themselves on this subject. It is undoubtedly the noblest work of patriotism and humanity, to which the profession of this region can

direct their attention; and society has a right to expect from them an efficient exercise of their influence.

We would make a similar call on the editors of public journals in the west and south—indeed throughout the Union; for their assistance would be still more effective, than that of the medical profession. Those who publish in the Valley, will of course "lend a hand," and those who reside east of the mountains, could scarcely fail to co-operate, if they were duly to consider the matter; or even to take of it the limited and selfish view which would connect it merely with the interests of the people of the old states. The view to which we refer is this. A very great number of those who are engaged in the navigation and commerce of the Mississippi and its tributaries, are emigrants from the east, who have left friends, more favored by fortune, behind them, who ought not, who could not if they would, be indifferent to the perils and sufferings of their sons and brothers, that have sought to earn a subsistence in the land of promise—but which to many is a land of hard labor and exposure. Still further, the number of travellers, male and female, from the Atlantic states, that make voyages of business, observation, or pleasure upon our "western waters," is far greater than is generally known; and every year, many of them perish from casualties and disease, who might be preserved, if well conducted infirmaries were scattered throughout the great region, which they attempt to traverse.

II.—Lunatic Asylum of Ohio.

Early in the year 1821, the Editor of this Journal, made a personal application to the General Assembly of Ohio, to establish and endow a state Asylum for the Insane, to be located in Cincinnati. It was successful, and on the 27th of January of that year, a law was passed, instituting an infirmary of that kind, in connexion with a commercial hospital, for boatmen of Ohio, sick at Cincinnati, and a poor-house for the paupers of the city, or, as it was technically called, the town-

ship. A considerable sum of money was given by the state for the erection of suitable edifices, the deficiency to be made up by the township; and one half of the auction duties accruing here, were pledged, forever, as an endowment; the poor taxes of the township of Cincinnati, to meet any expenditure beyond the means thus provided by the state. To the insane persons admitted into the Asylum, rich and poor, the professors of the Medical College of Ohio, were to give gratuitous medical assistance. Of this Lunatic Hospital, the associate judges of the court of Common Pleas for this county, and two delegates from the Medical Convention of Ohio, to be chosen annually, under a law since repealed, were appointed inspectors; and it was provided in the act, that if at any time, said judges should report, that, the Trustees of the Township of Cincinnati, had failed to provide comfortable accommodations, and the means of safe keeping, and appropriate medical treatment, it should be in the power of the state to reclaim the money it had granted.

In this way the Legislature of 1820—21, supposed it had made adequate provision for the keeping and cure (if practicable) of such citizens of Ohio as might unfortunately become insane; and humane persons every where in the state, were gratified to think, that the practice of confining those bereft of their reason, in the common jails, would no longer be necessary.

But no expectation could have been more illusory. The building erected by the trustees of the township of Cincinnati, for the safe-keeping, comfortable accommodation, and regular medical treatment of the insane, is most limited in extent, defective in plan, objectionable in location, and inadequate in the means of comfort, custody, and cure. So much so, indeed, that the professors of the Medical College, as they admit, do not pretend to afford professional aid in any case of mental alienation. The grounds about the edifice are scarcely three times as extensive, as the narrow building itself; for a long time, the only promenade for the insane of both sexes was the yard of the poor-house, amidst superan-

nuated debauchees and drunkards; whilst for a time, as we ourselves witnessed, the individual who carried the key of the wards, was a pauper! From the weakness of the grates of the windows, chiefly of wood, many lunatics have been chained to the centre of the floor, to prevent their escape; and several, at different times, have actually gotten out, through the windows or otherwise, and wandered off, even in the depths of winter. One patient, a gentleman of Point-pleasant, Virginia, who was received into the establishment, by agreement with its governors, left it, and returned home on foot, in the midst of winter, over a distance of more than 200 miles; and another, a respectable female of the upper end of our state, escaping, returned to her friends at a still greater distance, in the same season of the year. So bad indeed, is the construction and economy of this, miscalled, asylum, that the friends of a most respectable physician, resident in the interior of Ohio, and affected with insanity, were lately under the necessity of sending him to Philadelphia, for confinement.

All this faithlessness on the part of the township of Cincinnati, has become known to the Legislature of Ohio, not by the report of the inspectors originally appointed, but of two boards of commissioners, one of which visited the institution in 1831, and the other in 1833; still that honorable body has not thought it necessary to act on either of these reports, although they were made at a considerable expense to the state. The latter was embraced in a report on the state of the Medical College of Ohio, and expressly recommended new legislation on the subject of the asylum, but the committee of the senate reported, that no legislation was necessary, and that honorable body, without inquiry or deliberation, adopted the report with but one dissenting voice!

It is time that the medical profession of Ohio, opened their eyes upon this matter. It is, in all respects, a legitimate subject for them to act upon. They are the natural guardians of the public health; they know what means and appliances, both physical and moral, are necessary to the safekeeping

and cure of maniacs; they are aware that these can only be had in public institutions; and they have repeatedly been at a loss what advice to give the friends of those who have fallen into insanity. They should relieve themselves from this embarrassment, and support the dignity of their profession, by a simultaneous appeal to the General Assembly; and continue their efforts, till they effect the great work, of procuring for the people of Ohio an infirmary, in which the subjects of mental alienation, every year increasing in number, may be safely lodged, kindly governed, and brought under the most approved plans of medical and social treatment.

We trust that our western readers beyond the limits of Ohio, will not look upon this article with indifference. Except the Lunatic Hospital of Kentucky, at Lexington, which is a well appointed establishment, there is, as far as we are informed, no other infirmary for the insane in the valley of the Mississippi; and for many years, the new states cannot erect them; meanwhile they must rely on those of other states, and are, therefore, interested in the condition of that to which this article is designed to call the attention of the people of Ohio.

III.—Library of the Medical College of Ohio.

The library of the college embraces upwards of 1200 volumes, chiefly European. They have been purchased, exclusively, with moneys given by the state; and are designed for the promotion of medical science. The university of Pennsylvania has no medical library, but the Pennsylvania hospital, connected in various ways with the medical department of the University, possesses an extensive and valuable collection. The Transylvania school in Kentucky, has a library of more than 3000 volumes.

Both the managers of the hospital in Philadelphia, and the professors of the college in Lexington, have established a library ticket, which they sell by the year, or at shorter periods, to students of medicine and *physicians*, and thus lay open

to the profession, in those cities, and the surrounding country, the rich stores of medical and other scientific knowledge which are there accumulated; at the same time, causing the books, before they become obsolete, as all medical writings (including even our own) sooner or later must, to bring in something for the purchase of the new works, by which they are ultimately to be superseded.

But what has been and still is, the policy of the trustees and professors of the Medical College of Ohio, in reference to its library, purchased as we have said with the moneys of the state? It is to lock it up a prey for worms and spiders. During the session of four months, when students of medicine have no time to read any but the common text books, they have access to the collection, but for the other eight months of the year, not one of them can obtain a single volume, and no physician of Ohio, can on any terms procure admission within the walls of the library, either in the sessions or vacations of the college. Thus many students from a distance, who might, in the latter periods of their pupilage, be induced to remain in Cincinnati, and read such books as cannot be found in the libraries of their preceptors, are kept from doing so; and many young or inquisitive physicians of Ohio, who might, at a small expense, prosecute their studies, beyond the narrow limits, where the majority stop, are precluded from these advantages, while an annual source of revenue to the institution is entirely lost.

It is difficult to comprehend the reasons for this policy. It does not arise from apprehended danger to the books, if they were given out to resident summer pupils, and to the physicians of the city and state, under suitable pledges, for in the winter, students of every kind, from any distance, who are in attendance on the lectures, obtain books, by simply depositing their promissory notes, and paying less than would be willingly paid by students in vacation and by physicians; nor is it persevered in, from its not having been presented to the consideration of the Faculty and Trustees, as this has been done. In conclusion, we shall add the following fact. A physician

long resident in the city, and desirous of access to the library, in the spring of 1833, made a special application to the Board of Trustees. It was granted, but *limited to the vacation of that year*, and although a property holder, he could not get out a single volume, till he executed a bond, with security, in a penalty of two hundred dollars! Any physician of the state of Kentucky can obtain books from the Medical Library of Transylvania University, for the whole year, by paying eight dollars for a ticket; and if he reside in Lexington, may spend a part of every day, in reference, and research. It is not surprising, that the physicians of that state are attached to its institution, and that the number of its pupils is constantly more than double that of the Medical College of Ohio.

IV.—Clinical Ticket of Admission to the Commercial Hospital and Lunatic Asylum of Ohio.

By the charter of this establishment, as enacted in 1821, the professors of the Medical College of Ohio, were made, *ex-officio*, its medical and surgical attendants, with the privilege of introducing the pupils of the college, in the winter season, to witness the treatment of the sick. For this admission, they were at liberty, and, indeed, by the spirit of the law, required to charge; and the moneys thus accruing, were expressly ordered in the same law, to be appropriated to the purchase of books, anatomical preparations, and philosophical apparatus, for the use of the college, and to become the property of the college. Thus an annual revenue was established, by which the *materiel* for instruction was gradually to be procured. This provision was in force from the passage of the act of incorporation, till the year 1826, when at the instance of the Faculty and Trustees it was repealed. Now it might be supposed, that during that period, something had accrued to the literary fund of the college, from the annual sale, in the winter season, of hospital tickets, but nothing

could be more distant from the fact. During the whole of that period, not a single cent found its way into the *treasury* of the *college*, but was appropriated by the *professors* to the payment of their *contingent expenses!* Perhaps a more straightforward violation of the plain letter of a statute, could not easily be found. That the *professors* should have been willing to act thus, can be comprehended, as it was for their *personal* interest to do so, but that the courtesy of the Board of Trustees should have been so great, as to permit this continued course of speculation, must seem strange, to those who have had opportunities to observe their general conduct and management.

But this is not the only mode in which the professors have used the hospital for their own personal advantage and advancement. In the vacation, the college had no pupils, and consequently no students were, then, entitled to admission into the hospital. It is in vacation, however, when the number of students in the city is small, that the practice of the hospital is most instructive. But how could they then obtain admission? *In no other way than to become the private pupils of the professors;* who had no legal right, however, to introduce them (seeing that they only had the right to admit the pupils of the *college*) but who, nevertheless, have done so from the beginning down to the present time. They have on the same principle, opposed the establishment of a summer ticket, by the managers of the hospital, although a respectable number of the physicians of the city, several years ago, memorialized the board on that subject. Thus the professors have held out the practice in the hospital, as a *bonus* to young men, about to commence the study of medicine, to become their pupils, instead of the pupils of the other physicians of the city; and then complain that they are surrounded by those who are hostile to their interests! The students of the other cities of the United States, which have hospitals, can study with *whom they please*; and by purchasing a summer ticket, may still enjoy all the benefits of witnessing the practice in those infirmaries; but to enjoy it in Cincinnati, at a hos-

pital established and supported by the state, they must become the *private* pupils of the professors! Every citizen of Ohio, who may wish to place his son to the study of medicine, with any other physician of the city than a professor, is interested in the correction of this abuse.

V.—Comparative Classes of the Medical Schools in Cincinnati and Lexington.

For years, the annual circulars and advertisements of the trustees and faculty of the medical college of Ohio, have set forth to the public, how much the general assembly had done for the benefit of the institution, in providing a hospital for clinical instruction, in furnishing money to erect a splendid edifice, and for the purchase of books, engravings, models, anatomical preparations and chemical apparatus. Even within the last few months a paragraph from one of the *professors*, in a newspaper of the city, gravely announced, that a respectable physician from London, who had visited the college, expressed his gratification in decided terms, and declared that its "*accommodations are far superior to those of several schools in Great Britain, that rank high in that country.*" It would appear, then, that the state of Ohio has made liberal appropriations of money—that there is no deficiency in the *physical* means of instruction—and that the Cincinnati school has, actually, the advantage over that of Lexington in its hospital, and the consequent study of practical and morbid anatomy, as well as of witnessing the treatment of clinical, surgical and obstetrical cases. Being thus, in the apparatus for instruction, even better provided than the Transylvania school, the question naturally arises, why that institution constantly has two or three times as many students as this? If it is owing to any other cause than the superior qualifications and higher standing of the *professors* of that school, that cause ought to be pointed out and abated.

It has often surprised us, that the people of Ohio have not

long since opened their eyes to the acknowledged fact, that their school is far inferior in numbers and reputation to that of Kentucky, although their ages are nearly the same, and the expenditures of public money upon the former, have been nearly four times as great as upon the latter; for even the hall in which the lectures are delivered in Lexington, was built by the professors, and some of the capitalists of the city who receive an annual dividend on their loans.

That the people and the physicians of Ohio, may see the comparative numbers in the two institutions from the commencement of their own, we shall present them with the following table, extending through fourteen years. The Lexington school was in operation two sessions before ours, but its two first classes amounted only to 57, two more than were in the two first classes of the Cincinnati school.

TABLE.

Years.	Cincinnati.	Lexington.
1820	25	93
1821	30	138
1822	18	171
1823	00	200
1824	15	234
1825	30	281
1826	80	190
1827	101	152
1828	101	206
1829	107	199
1830	124	210
1831	131	215
1832	72	222
1833	102	262
Total	936	2773

It must be borne in mind, that the numbers in the first column, embrace the *beneficiaries*, who have been provided for by the statutes of Ohio. These have been admitted for the last seven years, and have varied in number from 8 or 10 up to 17—the average number about 12, or 84 in the whole period—none of whom it may be presumed, would have attended the lectures, if they had not come in gratis. They should,

therefore, be deducted, when the aggregate number, for fourteen years is but 852, while the aggregate of the Lexington school is 2773—giving a difference of more than three to one in favor of the *professors* of the former; although according to the advertisements of the latter, they have labored under several disadvantages, from which the Cincinnati professors were exempt. One of these embarrassments was the higher price and greater number of their tickets—seven at $15, amounting to $105; while the tickets of the Cincinnati professors, varying from four to six in number, and from $10 to $12 in price, amounted only to $40 or $60. Thus, we see, that even underbidding could not keep our institution from being distanced! How it may hold on in future, we shall not predict; but as the faculty have lately advertised for an indefinite number of beneficiaries, to supply the places of those lost by a change in the policy of the state in this respect, they will probably be able to keep up what for *them* will be a respectable number; and thus do away the necessity of abolishing another professorship for the purpose of cheapening the institution. It is, moreover, a favorable symptom, that the professors require the applicant to *swear*, that his application "*is in his own composition and hand writing*," as by this precaution none will hereafter make their way into the college, who have not learned to write. Should the faculty persevere in *such* labors for raising the character of the institution, it will soon attain an elevation to which the *cross*-bow of calumny cannot send its shafts.

VI.—Proposed improvement of the Common Trephine.

Dr. Robert Estep, of Paris, Stark county, Ohio, has sent us, for examination, a trephine, to which he has added a guard, designed to prevent (what has sometimes happened) a wound of the dura mater and brain, by a sudden plunge of one side or the whole of the circular saw, in the latter stage of the operation.

A thread for a screw is cut for three quarters of an inch, on the hollow shaft of the trephine, beginning half an inch from

the points of the teeth. Two bands are screwed on this thread. The upper of these is a mere rim, and being put on first, serves as a support for the other, which is a projecting rim of the same kind, attached to the lower margin of a hollow cylinder, half an inch in length, the inside of which is grooved into a female screw. This part is to be screwed on with the rim downwards, and this rim, when it comes to rest on the cranium, resists the further progress of the instrument. By screwing these two cylindrical bands up and down the shaft of the saw, it may be extended or limited to any depth. As they do not, in any way, embarrass the movements of the trephine, and appear to be well calculated to prevent an injury of the soft parts, towards the close of the operation, we commend them to the notice of the profession. Indeed, they seem to us both simple and ingenious; and, should experience demonstrate their utility, we would propose, that the instrument be called "Estep's Guarded Trephine."

VII.—Stagner's Patent Truss for the permanent Cure of Hernia.

In our last number we gave a brief notice of this instrument, the invention of a citizen of Madison county, Kentucky. We have heard that the following circumstance gave rise to the invention. Mr. Stagner having himself a rupture, and losing, one day, a considerable part of the pad of his truss, he resorted to a chip or piece of wood, as a temporary substitute. He soon found, however, that this *hard* body served a better purpose in preventing the descent of the hernia, than the soft pad, and was induced to continue it. After having worn it for a time, he was surprised to find, that when it was off, the rupture did not show it itself; and, at length, had the gratification to discover, that a permanent cure had been effected.

Encouraged by this unexpected result, he turned his mind upon the construction of wooded truss heads, as substitutes for those of softer materials; and has satisfied himself that the form of half an egg, slightly compressed, the division being

made longitudinally, is the most proper. The plain or flat surface is screwed to the spring at the usual place of the pad, and the truss is then applied in the ordinary way, with the parabolic projection directed upon the aperture. The pressure which is thus made, seems to excite about the abdominal ring, a mild, adhesive inflammation, which in a few weeks terminates in the obliteration of the canal.

Several respectable physicians and intelligent citizens of Kentucky, have certified, that within their observation, a number of cases of hernia have been already permanently cured; and we are assured, that in many parts of that state, the invention is considered as entirely adequate to the object proposed.

Mr. Wm. Shadburne, a student of medicine, in the office of Dr. Wood, corner of Fourth and Walnut streets, in this city, is the agent of the patentee, for the city and county. In no instance is a charge made, unless a permanent cure be effected. Should any portion of the omentum adhere from previous inflammation, below where the truss must be applied, a cure cannot of course be effected.

VIII.—Clinical proofs of distinct Nerves for Motion and Sensation.

We cannot doubt, that the practice of medicine, might furnish to the acute observer, many striking evidences of the truth of Sir Charles Bell's discovery, that there are distinct sets of nerves for motion and sensation. Without having been as attentive to this matter as we ought, we have within the last few years met with several cases of paralysis that were instructive on this point.

1. Being called to an elderly woman, suddenly taken down with hemiplegia, which proved fatal, we proceeded to bleed her; and performed the operation in the arm of the affected side, as happening to be most convenient. On making the puncture, although previously unaware of what was impending she screamed out from the pain, and threw her other arm

about with violence; but that in which the puncture was made, remained as motionless as if it had been dead.

2. About the same period we saw, for a single time only, a young woman on board a steam boat, who had very little sensibility in one side, while its power of motion was nearly unimpaired. She appeared to be recovering; but we never had an opportunity of learning the termination of the case. The disease had come upon her suddenly.

3. Very lately, a gentleman from the south, presented himself to us with a paralysis of one side of his face, of six or eight weeks standing. The forehead of that side, as is usual in such cases, was smooth, the eyelids could not be closed without a great effort, and the angle of the mouth hung a a little, and was drawn forward by the superior action of the antagonizing muscles of the other side. Notwithstanding all this loss of power in the motory nerves of that side of the face, its sensibilities were perfect, both in relation to heat and cold, and to mechanical irritation of every kind.

We would earnestly recommend to our readers, to be diligent in their observation on cases of paralysis, with a view to this subject.

IX.—Efficacy of the Hot and Cold bath in alternation, illustrated with a Case.

We are disposed to think, that the powers of the hot and cold bath, have not been sufficiently tested, in chronic diseases, unattended with obvious inflammatory action. In many cases of this kind, the skin is exanguinous, unperspiring, defective in temperature, and blunted in sensibility. In this pathological condition, we know of no cutaneous excitant so powerful, as the means just mentioned; and when the viscera of the abdomen are in a torpid condition, or the general nervous system is impaired in its sensibility, the excitement of the surface soon revives that of the parts beneath. The following case will serve to show, what may sometimes be accomplished by this simple application.

Case.—A gentleman of the Bar, at the age of 19 or 20, had an attack of gonorrhœa, which was followed for sometime by nocturnal emissions, which, however, had become much less frequent when he applied to us, at the age of 23. For a long time, however, he had labored under irregular bowels, being either costive or relaxed, and greatly afflicted with flatulence; his alvine discharges were often acrid, and sometimes of a green, but commonly of a light yellow color. His appetite was constantly craving; but the indulgence of it generally increased the flatulence, and occasionally excited pyrosis. His muscular system of animal life, became enfeebled and agitated, his heart suffered from palpitations, his spirits were greatly depressed, and he sought solitude.

In November, 1833, he discovered, that between the shoulder blades, and just above the sacrum, he had pain on pressure; which extended down the insides of the thighs while the outsides felt numb, that the flatulence of his bowels was at the same time augmented, and that cramps occurred in his legs and feet. Blisters applied to the upper part of the spine raised his spirits; to the lower part, were followed by flatulence, diarrhœa, and sometimes a considerable degree of fever.

He had previously to the time just mentioned, dieted himself, and taken the blue pill and rhubarb, with very little effect. After discovering the tenderness of the spine, he was cupped more than a dozen times, and also blistered, by a respectable young physician of Ohio. For a while this method afforded great relief, but at length did no further good; and when he applied to us his spine was still tender and painful under pressure, his bowels more or less irregular, digestion bad, hands perpetually cold, muscular system enfeebled, nervous functions generally, impaired, and his spirits gloomy.

We directed no medicines, but ordered the hot and cold bath, in immediate succession, every day at 11 o'clock, and every night before bedtime, with hard frictions to the skin. After even the first bathing he felt better, and in little more than a fortnight, was so well as to leave the city. He had regular

and rather copious alvine evacuations without pain; the tenderness of his spine had greatly diminished; he slept better; had less nervous irritability and gloom; his hands were warm; his complexion improved, and his flesh and strength had greatly increased.

It is remarkable, that so many persons should have a dread of the alternation of hot and cold water to the skin. It signifies little, we suppose, which of them may be applied first, the effect in either case is to revive its sensibility, fill it with blood, and restore the perspiration.

The reason for employing a bath in the forenoon may not be very obvious, but we are persuaded it is, on the whole, the most proper period in the 24 hours. There seems to be at that time, between 11 and 1 o'clock, a diurnal failure, to some extent, of the powers of organic life, and an especial faultering of the calorific function. Hence, we find, that the cold stages of hectic and intermittent fevers, more frequently recur at that period, than any other, and dyspeptics are more liable to cold feet at that time than any other, in the day or night. The custom of taking a luncheon and some stimulating drink about that hour, probably had its origin, in the recurrence of a sinking sensation in the epigastrium, which people in general, and particularly the infirm, experience at that period more frequently than any other.

X.—Wound of the Longitudinal Sinus and Brain—Convulsions—Spasmodic Contraction of the Dura Mater.

We are indebted to Dr. John F. Carmichael, of Mississippi, formerly a surgeon in the army of Gen. Wayne, for the following fact.

A soldier in the celebrated battle of the 20th of August, 1794, was shot through the head. The ball entered the centre of the upper part of the forehead, and passing between the tables of the skull, made its exit about three inches back. The bone was of course torn to pieces, and a great number of

fragments were driven downwards, even to the depth of two inches into the brain, a considerable quantity of which escaped. The symptoms were those of apoplexy. Upon removing the scalp and trimming off the edges of the bone, the oblong opening of the cranium, was wide enough to admit the finger. No hœmorrhage *then* occurred, but was said to have been profuse before the patient came into Dr. Carmichael's hands. In attempting to extract the spiculæ of bone, with forceps pushed into the substance of the brain, a kind of cataleptic convulsion came on, and was repeated at each operation, till the whole were extracted. *When the first convulsion took place, the doctor had his finger in the brain, feeling for one of the fragments, and was surprised to find that the lacerated dura mater closely contracted about it, till the spasm ceased, when the membrane simultaneously relaxed: subsequently, on introducing the forceps, the same contraction several times recurred so as to grasp the instrument, coming and going with the general spasms.* All the spiculæ being removed, the wound was dressed in the usual manner, and the patient speedily recovered. The professional and personal respectability of Dr. C., do not permit us to doubt the accuracy of this observation, which appears to be sufficiently curious to merit publication, and which was witnessed by many intelligent officers of the army.

XI.—Large Urinary Calculus in a young Female.

Two or three months ago, a little girl 11 years old, was brought to us to be treated for the "gravel"—considerable quantities of which, it was said, she had been discharging for some years. She could not retain her urine, which escaped as fast as secreted; suffered great pain in the hypogastric and lumbar regions; and passed such afflicting nights, as to be obliged to take large portions of laudanum. This of course produced habitual constipation, but otherwise her health was better than might have been expected, under such acute sufferings, which had continued for about *seven* years.

On examination, we found a calculus projecting out of the

external orifice of the urethra, and it was easy to perceive, that it filled the bladder. By the aid of a small pair of lithotomy forceps, it was broken up, and extracted in fragments, the last of which adhered to the fundus of the bladder. As the orifice of the urethra was greatly and permanently dilated by the pressure of the calculus, it was not difficult to introduce the finger, and ascertain that all the fragments were removed. The bladder was then syringed out with tepid water, large quantities of which were thrown in, and an opiate administered. No inflammation supervened, and the little patient declared, that the ensuing night, was the most comfortable she had experienced for years. The object of our notice is not, however, to set forth these facts, but the following:

On examining the calculus, it was found to be composed of *uric acid*. The parents of this child had resided from her infancy, on the banks of the Great Sandy, a river of the eastern part of Kentucky, which flows through a secondary sand stone formation, and the water, she had always drunk, was of course soft.

XII.—Meteorological Notices.

1. The following are the results of five months' observations, by Joseph Ray, M. D., one of the teachers in the Woodward High School, in this city. They are given in continuation of those for the first quarter of the year, published in our 28th number, from the same scientific observer. The observatory is in lat. 39° 6′ 30″, and at an elevation of 500 feet above the level of the sea; north of it at a little distance, is a range of river hills rising 260 feet above its level.

TABLE.

TABLE.

Thermometer (Fah.)	April.	May.	June.	July.	Aug.
Mean temperature	57.45	64.19	72.65	78.18	75.16
Greatest heat	80	86	86	95	99
Least heat	29	36	46	56	51
Range	51	50	40	39	48
Barometer.					
Mean height in in.	29.2052	29.2075	29.1761	29.3128	29.2822
Greatest height	29.86	29.71	29.411	29.491	29.41
Least height	28.68	28.67	28.899	29.140	29.12
Direc. of the wind on different days	N. 6	N. 1	N. 15	N. 1	N. 2
State of the weather	N.E. 6	N.W. 13	W. 1	N.W. 18	N.W. 16
Depth of rain in in.	N.W. 7	W. 1	S.W. 9	S.W. 8	W. 5
	W. 3	S.W. 6	S. 1	S. 2	S.W. 3
	S.W. 7	S.E. 4	S.E. 1	S.E. 1	N.E. 5
	S.E. 1.	N.E. 6	N.E. 3	N E. 1	
	5 clear	11 clear	5 clear	10 clear	16 clear
	13cloudy	6 cloudy	5 cloudy	1 cloudy	3cloudy
	12 variable	14 var.	20 var.	20 var.	12 var.
	2.83	2.52	7.64	3.75	2.42

2. The results which follow, are from observations, by Mr. George Mendenhall, student of medicine, and his friends, at Salem, Columbiana county, Ohio, in north latitude 40° 54′ 30″ and longitude 3° 57′ west from Washington, at a probable elevation of 800 feet above the level of the ocean. They run through the first six months of the present year, 1834.

TABLE.

Thermometer.	Jan.	Feb.	March.	April.	May.	June.
Mean temperature.	24	42.41	38.15	53.3	57.52	68.7
Greatest heat	52	65	69	81	91	92
Least heat	0	12	16	26	22	40
Range	52	53	53	55	69	52
Winds in days	N.W. 2	N.W. 2	N. 1	N. 1	N. 1	N. 2
	W. 6	W. 5	N.W. 6	N.W. 15	N.W. 18	N.W. 18
	S.W. 4	S.W. 2	W. 6	W. 1	W. 1	S.W. 4
	S. 2	S. 1	S.W. 5	S.W. 4	S.W. 6	S.E. 2
	S.E. 1	S.E. 1	S. 2	S.E. 3	S. 1	
	E. 4	E. 1	E. 1	E. 1	S.E. 3	
State of the	N.E. 2		N.E. 1	N.E. 3	N.E. 1	
weather	7 calm	13 calm	4 calm	4 calm		2 calm
	8 clear	9 clear	8 clear	7 clear		
	11cloudy	9 cloudy	11cloudy	12cloudy		
	12 var.	10 var.	12 var.	11 var.		

A severe frost, preceded by a strong N.W. wind, springing up in the afternoon, on the night of the 26th of April, destroyed nearly all the fruit of every kind, in the Valley of the Ohio; also a great number of annual plants on the farms and in the gardens, and the leaves and young flowers of many forest trees.

When the present calender year is through, we shall compare the observations of these two meteorologists. Meanwhile, we return or thanks to both; and take particular pleasure, in publishing an abstract of the register of Mr. Mendenhall, *because he is a student of medicine;* in the hope, that others will follow his example, while pursuing their studies. During that period, young gentlemen have that command of their hours, which is necessary to meteorological observations; and making them is attended with a variety of advantages to themselves:—It leads them to study the elements of meteorology, to notice the beautiful phenomena of the atmosphere, and to remark upon the influence of the various atmospheric changes on health; it promotes habits of observation, incites to punctuality, and last, though not least, makes them early risers! They should, moreover, employ themselves on this subject, from professional and patriotic considerations; for they have much in their power in these respects. If the students in the Valley of the Mississippi, for example, were generally to turn their attention to practical meteorology, they would, in a few years, collect the *data*, for a full estimate of its climate, and confer upon science and society a lasting benefit.

XIII.—Projected Medical Convention of the Physicians of Ohio.

In our last number we announced, that some of our brethren in the capital, had proposed a meeting of our physicians in that town, on the first Monday of January next. A late letter from one of them, informs us, that the indications are in favor of a numerous convention. This is as it should be. The

medical conventions and general societies hitherto held, have consisted of delegates only; and the majority of the physicians of the state have never yet come together. Such a meeting would certainly do good to the profession and society, in various ways, and could not fail to prove delightful, at the moment, by the social hilarity and active good feeling it would excite. We venture to indulge the hope, that it will be well attended, and that the first week of January, 1835, will bring to the apothecaries, fewer prescriptions, than usual. Dr. Franklin used to fast one day in the week, that nature, having a holyday, might clean out her streets—the same rule in regard to medicines might be equally useful to the people.

XIV.—Epidemic Cholera in Campeache.

We have been favored by Dr. K. M'Kinney, lately from Yucatan, with some memoradums on the cholera, as it prevailed in the town of Campeache, in that peninsula. Having published a long and interesting letter from his friend Dr. Perrine, on the same subject, we shall merely give a few extracts from the paper of Dr. M'Kinney.

"Among the natives of Campeache, there is much more nervous irritability than is found in the habitants of higher latitudes."

"July 4th, only two or three attendants, and near fifty patients. The calomel was exhausted yesterday, and none could be procured for the hospital. I ordered blue pill 30 grs. every hour, with infusion of black tea and external stimulants—some little improvement in the results. Some cases, apparently the most hopeless, recovered. I generally ordered for male adults, the most numerous class of my patients, 30 grs. every hour till they had taken three doses, but if the vomiting and purging continued, to give it every hour. As I had found in private practice, that the irritability of the stomach was frequently allayed by giving a spoonful of cold water every five or ten minutes, according to the violence of the thirst, I abandoned the use of warm drinks entirely, gave cold well

water and cold rice water every few minutes, but in very small quantity. It allayed thirst better, and provoked vomiting much less than larger draughts, or even small draughts of warm liquids."

"I attended a neighborhood around the bridge of St. Francisco. The persons are principally retailers of liquors and provisions, and butchers. I had 24 patients in this vicinity of all sexes, ages and habits; most of them were attacked with malignant cholera, and some of them in its most violent form. I gave 20 grs. of calomel with ½ gr. of opium every half hour, or every hour, according to the violence of the symptoms, till the vomiting ceased. When the diarrhœa was urgent, I used suppositories of 2 to 3 grs. of opium, which produced the most decidedly beneficial effects. Opium given in this manner is much milder in its effects, and in my opinion more beneficial, than when introduced into the stomach; and were I to treat cholera again, I would introduce no opium into the stomach, except in the form of sulphate or acetate of morphina. External frictions and stimulants were used in all cases—and the only food in the first days of convalescence, was their arrowroot jelly and rice water. Of the 24 thus treated, 20 recovered."

"In the same neighborhood 26 others were attacked, and treated with ether and other stimulants. Of these, 18 died."

"There should not be too great a haste in burying the dead. Those who die of cholera, are not disposed to sudden putrefaction, and consequently cannot injure the living. Many of them while in a state of asphyxia, ceasing to breathe, are to all appearance dead. In Campeache, two or three revived while being carried to the grave yard; and in Minuco, a young woman actually in the grave revived, when they began to fill it up, was taken out, and lived till the next day. A servant, who was to all appearance dead, was stretched in the back yard—while his master was preparing for his burial, a violent shower thoroughly drenched the body—the undertakers came, and to their astonishment and dismay, found the supposed corpse seated, and trying to leave his hard bed.

He was taken into the house and recovered, and is alive at the present day. I doubt not many have been buried alive."

"A few cases were treated with calomel alone, without opium, and the vomiting, cramps, and even purging, appeared to be checked as soon as when opium or its saltz was used. I consider it of some importance to give the calomel floated on water, as it is thereby thrown into the stomach almost dry, and notwithstanding the vomiting, a portion will adhere to the coats of the stomach. When given in pills, it cannot produce its effects so soon as when given in powder, and may be thrown entirely off by vomiting. I have given calomel occasionally in much larger portions, but I could not see that its effects were more speedy, than when given in scruple doses, and repeated, according to the urgency of the symptoms. To calm the irritability of the stomach, nothing appeared to answer so well as a table spoonful of cold water, every five minutes."

XV.—Epidemic Cholera in Butler County, Ohio. By Dr. Cyrus Falconer.

The progress of the cholera in this country, within the present year, is strongly illustrative of its erratic and implacable character. It appeared first about the 10th of July, and selected for the theatre of its ravages, a section of country heretofore distinguished for its almost unvaried salubrity. The infected district, *i. e.* the district first attacked, and where the disease spent the violence of its assault, embraces a portion of two townships, (Morgan and Ross,) in the southwest angle of the county. "*Paddy's Run*," a small creek, meanders through the centre of the region, bearing the commingled tribute of the adjoining hills to the Miami. *Indian Creek*, a stream somewhat large, flows along its border, and enters the Miami higher up.

The first case is believed to have been a gentleman who a few days previous to his attack had visited Cincinnati, where cholera was then existing; but he recovered, and the nature of his attack is by some held doubtful. The next case was his son, a lad who had accompanied him—he died, and from that period attacks rapidly multiplied. From its commencement to the acme of severity, the march of the disease was frightfully rapid; its continuance, about three weeks—the last week of this time, however, introduced as is, I believe, customary, a milder character and more manageable symptoms.

The mortality in proportion to the number of cases, has been unusually great; indeed, during the first part of the period referred to, the certainty with which death followed an attack was equalled only by its rapidity. This may be attributed, in some measure, at least, to

two causes—the excessive panic incident to the unexpected appearance of the pestilence amongst a people uninformed of its characteristics, and consequently vividly impressed with fears of its contagion—and the want of intelligent physicians. One of the first victims was a physician; another medical gentleman was sick during the whole course of the disease, and before physicians from a distance could possibly see a patient, the time to act successfully, had passed forever.

In nearly every case, so far as I have learned, there was a stage of premonition of from *one* to *several* days, and when attended to in this stage the disease was medicable. From the circumstances above related, it will be seen, that in a majority of cases, not much *treatment* was afforded. *Calomel* is the only remedy which appears to have been used with efficacy, and in those families where a prompt and free resort to it was made, it was successful. *Opium*, *ether*, and other antispasmodics were used in some cases, and the *external stimulant* plan generally tried. *Venesection* was, I believe, in no case practised. The *steam system* was tried by a portion of the credulous, and shortened almost invariably, "the road to dusty death."

The first appearance of cholera was in the midst of a rain of several days' duration, and its greatest mortality in a week of remarkably warm weather which succeeded it. I am not aware that any meterological phenomena, or unusual atmospherical appearances were observed immediately previous to, or during the existence of, the disease.

The distance from the Miami to Oxford, (the extreme limits of the infected district in this county,) is about 15 miles. The soil and its productions within this space, resemble those of the Miami valley generally, and the surface of the country presents a more than the usual variety of broken boldness—of hill and valley. The streams are rapid; marshes unknown; and what is certainly remarkable, the points where the destroyer has left the most fatal evidences of his presence, are amongst the most elevated in the district. The miniature vallies bordering the several streams in the route of the cholera were, for the most part, avoided, or lightly touched, while the adjoining highlands suffered severely. One village, (Venice,) in the midst of a level plain, had but 2 or 3 cases; another, (Millville,) a part of which occupies a low and level situation on the edge of Indian Creek, contained but few cases, although a range of hills in its immediate vicinity suffered dreadfully. I am unable to afford any clue to the causes which induced this extraordinary location—they surely will not be found in any theory heretofore promulged, of the origin of cholera, save, perhaps, the *animalcular*.

The disease was announced first within a few miles of the Miami; as it subsided here, it advanced northerly, touching but slightly in its course until it alighted upon Oxford. The situation of this village is too well known to need description; it is enough to say here, that its high and healthful location resembles those of the other places attacked in this county. A glance at the *profile* of the district travelled over by cholera, proves that its advance was south to north, and that it moved in a *direct line* leading from Cincinnati to Oxford. There were a few cases on the east side of the Miami, and in Hamilton

county; but I believe that every case occurred within a space bounded by two parallel lines, say 3 miles asunder, leading from Cincinnati to Oxford. Such are the facts—I leave to others their explanation.

The district of country of which I have been speaking, would equal in extent, perhaps, a township, and contains about 1200 inhabitants. The following synopsis exhibiting the number of *fatal* cases, with the proportion of ages and sexes, was compiled from sources which may be relied on for general accuracy. It has been computed, that death resulted in threefourths of all the attacks:—

Males.		Females.	
Deaths.	*Ages.*	*Deaths.*	*Ages.*
6	15 and under	7	13 and under
4	15 to 20	3	15 to 20
5	20 " 30	5	20 " 30
6	30 " 40	4	30 " 40
5	40 " 50	5	40 " 50
4	50 " 60	6	50 " 60
8	over 60	4	over 60

Total 72.—There is an unusual number I think of aged persons.

XVI.—A Backwoods'-man in Philadelphia.

Dr. Joseph N. McDowell, for three or four years a lecturer on Anatomy in Cincinnati and Lexington, has sought an ampler theatre in the East, and is about to commence a fall course of anatomical lectures in Philadelphia, to be followed by another in the winter. Dr. McDowell is a native of Kentucky, and was never out of the Backwoods till he went to the great emporium of the medical sciences, for the purpose of teaching, instead of being taught. As far as we know, he is the first native of the West, who has had the rashness to engage in such an enterprize. We hope the students of the Great Valley who may be there, will give him a "fair chance," and they will soon discover, that he has a "fine chance" of fluent speech and fervent feeling, with a copious knowledge of anatomy—acquired chiefly by his own dissections. His success at home, in drawing students around him, and making them feel, that they were instructed, is without a parallel in the United States, considering the disadvantages under which he commenced and prosecuted his labors as a public teacher. His late pupils and numerous western friends, will watch with interest his progress among the great men of the East.